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Description of a new species of *Ananteris* Thorell, 1859 from Bolivia (Scorpiones, Buthidae), with comments on the distribution of the genus

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(With 13 figures)

Abstract

A new species of *Ananteris* Thorell, 1859 (Scorpiones, Buthidae) is described from semi-humid formations in the NW area of Santa Cruz de la Sierra in Bolivia. The new species is related to *Ananteris balzani* Thorell, 1891 and, to a lesser extent, to *Ananteris mariaterezae* Lourenço, 1982. This is the first species of *Ananteris* to be described from Bolivia, confirming the geographic distribution of the genus in this country. The geographical distribution of this genus in the Neotropical region is also summarized.

Introduction

By the time of the publication of Mello-Leitão's (1945) monograph on the scorpions of South America, only three species were known in the genus *Ananteris* Thorell, 1859. However, taking into account the distribution of these three species - one in Brazil and Paraguay, one in Ecuador and one in Venezuela - he predicted that many new species would be described from the regions within this broad area of distribution. With the contributions of Lourenço (1981, 1982), the total number of species was raised to 12, but this number has continued to grow, recently reaching a total of 22 (Lourenço 1997, 1999a, b; Lourenço & Monod 1999).

A female specimen of a scorpion collected in semi-humid formations in the NW area of Santa Cruz de la Sierra in Bolivia proved to belong to yet another new species of *Ananteris* and is described in this paper. It is important to note that until now only one species, *Ananteris balzani* Thorell, 1891, has been recorded in Bolivia, from Rio Benecito, Beni Province (Lourenço 1982). However, the vegetation is represented at this locality by a savanna type formation, which extends from the Central Brazil Plateau.

Most species of *Ananteris* have been, and still are, described on the basis of very few specimens. Because of the rarity of specimens collected in the field, it can be suggested that most (if not all) species of the genus have very low population densities.

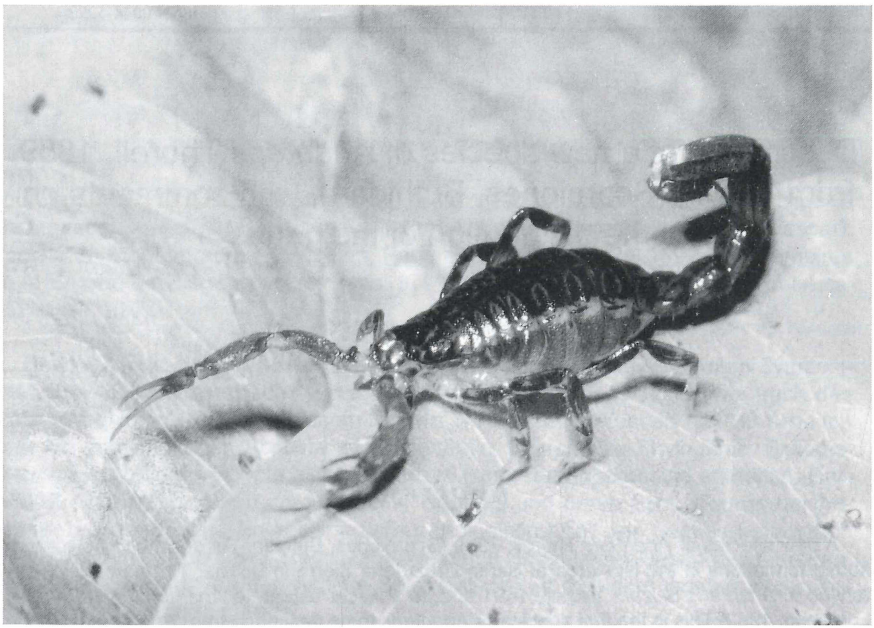


Fig. 1. *Ananteris charlescorfieldi* sp. n., holotype ♀: habitus of living specimen.

Even though 23 species have been described, the number of collected specimens remains very small (less than 120), suggesting that most of these are rare. Only the original species, *A. balzani*, seems to be more abundant and has a larger range of distribution (Lourenço 1993). Nearly 50 specimens of *A. balzani* have been collected since 1975. Of the remaining species, 12 are represented by less than 5 specimens each and 8 by only a single specimen. Males are rare, having been found in only ten of the 23 species.

Description

Ananteris charlescorfieldi sp. n.
(Figs 1 - 9, 11)

DIAGNOSIS. Median sized scorpions with dark variegated palpal pigmentation and spots on pleural membranes and telson. Cheliceral movable fingers with two basal teeth fused and extremely reduced, internal side of palpal tibia with 7/8 spinoid granules; pectines relatively long.

TYPE MATERIAL: H o l o t y p e ♀: Bolivia, NW Santa Cruz de la Sierra, 350 m a.s.l., 26 January 1999, C. Nowicki coll. Semi-humid area with evergreen vegetation, 1400 mm of rainfall yearly. No paratypes. Deposited in the Zoologisches Museum Hamburg (ZMH Acc. No. A27/01).

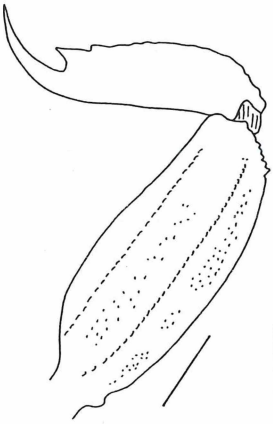
ETYMOLOGY: Patronym is in honor of Dr. Charles Corfield of Boulder, Colorado, USA, in recognition of his scientific contribution to the field of mountain geography.

DESCRIPTION based on holotype ♀ (measurements are given below).

C o l o r a t i o n. Basically blackish-yellow, symmetrically marbled with dark blackish brown, producing an overall spotted appearance. Prosoma: carapace dark yellow, almost totally covered with blackish spots; eyes surrounded by black pigment. Mesosoma: blackish-yellow with confluent blackish stripes and two diffuse, longitudinal, yellowish stripes. Metasoma: segments I to IV reddish-yellow, with intense blackish spots; segment V reddish-brown, almost totally covered with blackish spots. Vesicle reddish, covered with brownish spots. Venter yellowish; sternite VII with a few dark spots. Chelicerae yellowish with an intense, dark, variegated pigmentation over their entire surface; fingers reddish-brown. Pedipalps: yellowish with an intense blackish pigmentation, better marked on the femur; fingers yellowish with the rows of granules slightly reddish. Legs yellowish with intensely marked blackish spots.

M o r p h o l o g y. Carapace moderately to strongly granular; anterior margin with a slight median concavity. Anterior median superciliary and posterior median keels weak. All furrows moderate to weak. Median ocular tubercle distinctly anterior to center of carapace; median eyes separated by approximately one ocular diameter. Three pairs of lateral eyes. Sternum subtriangular to pentagonal. Mesosoma: tergites moderately to strongly granular. Median keel strong on all tergites. Tergite VII pentacarinate. Venter: genital operculum divided longitudinally, each plate having a more or less semi-triangular shape. Pectines: pectinal tooth count 16-16; basal middle lamellae of the pectines not dilated; fulcra absent; extremities of pectines not rounded as in several other species of the genus. Sternites smooth with weakly elongate stigmata; VII granulated with vestigial keels. Metasoma: segment I with 10 carinae, crenulate. Segments II-IV with 8 carinae, crenulate; dorsal carinae on segments I-IV with one to three posterior spinoid granules. Intercarinal spaces moderately to strongly granular. Segment V with 5 keels. Telson weakly granular, with one ventral carina and a short, moderately curved aculeus; subaculear tooth strong and spinoid. Cheliceral dentition characteristic of the family Buthidae (Vachon 1963); fixed finger with strong median and basal teeth; movable finger with two very weak and fused basal teeth; ventral aspect of both fingers and manus with long, dense setae. Pedipalps: femur pentacarinate; tibia and chela with a few vestigial carinae; internal face of tibia with 7-8 spinoid granules; all faces weakly granular. Movable fingers with 6 oblique rows of granules; two accessory granules present at the base of each row. Trichobothriotaxy: orthobothriotaxy *A-β* (Vachon 1974, 1975). Legs: tarsus with very numerous fine median setae ventrally. Tibial spurs strongly developed on legs III and IV.

M e a s u r e m e n t s (in mm): total length 24.0. Carapace: length 3.2, anterior width 2.1, posterior width 3.2; Metasomal segment I: length 1.7, width 2.0; Metasomal segment V: length 4.3, width 1.8, depth 1.8; Vesicle: width 1.0, depth 0.9; Pedipalp: femur length 2.6, femur width 0.8, tibia length 3.4, tibia width 0.9, chela length 4.4, chela width 0.7, chela depth 0.6; Movable finger: length 3.3; Chelicera length 1.3.



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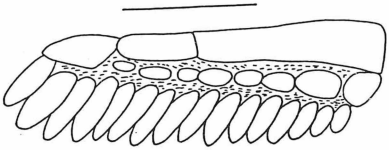

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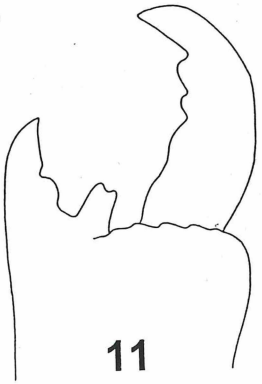

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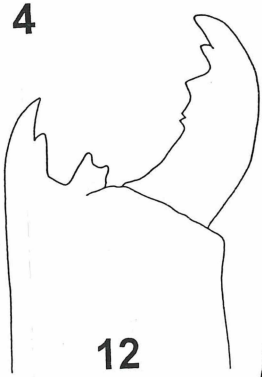

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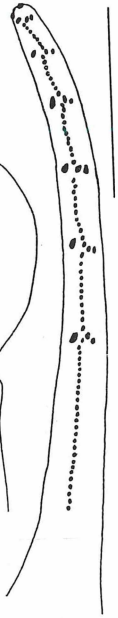

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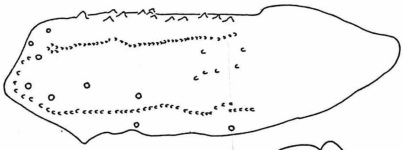

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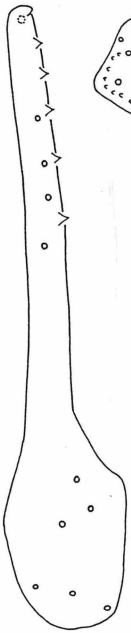

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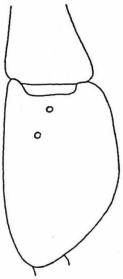

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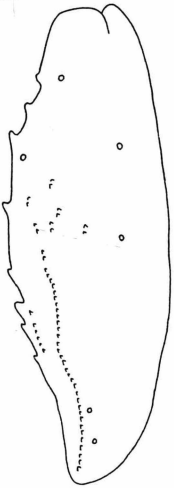

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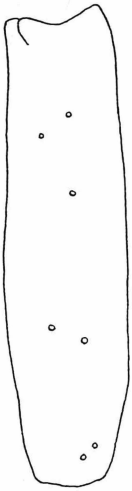

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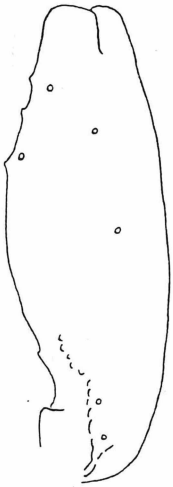

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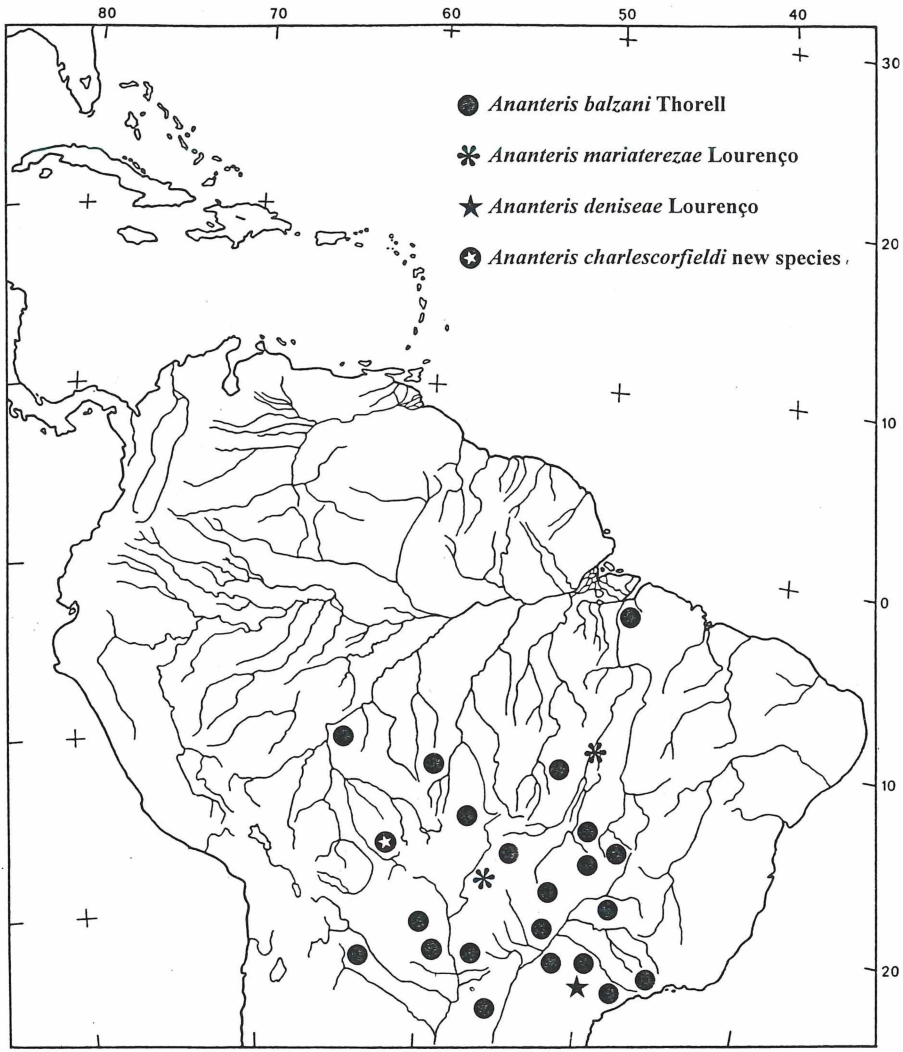

Fig. 13. The southern range of distribution of the *Ananteris* species in South America.

Figs 2-12. *Ananteris charlescorfieldi* sp. n. (holotype ♀, Figs 2-9, 11): **2**- metasomal segment V and telson, lateral aspect; **3**- dentition of pedipalp-chela movable finger; **4**- pecten; (5-9: trichobothrial pattern): **5-6**: chela, dorso-external and ventral aspects; **7**- femur, dorsal aspect; **8-9**: tibia, dorsal and external aspects; *A. balzani* Thorell: **10**- tibia, dorsal aspect; Figs 11, 12: chelicerae with dentition, **11**- *A. charlescorfieldi* sp. n.; **12**- *A. balzani* (scale bars in Figs 2-10: 1 mm; in Figs 11, 12: 0.5 mm).

REMARKS. The new species is related to *A. balzani*, which is endemic to savanna formations in South America (Lourenço 1982), as indicated by a similar pattern of cheliceral pigmentation; in both species the chelicerae are totally covered with a dark variegated pigmentation, which is, however, more intensely marked in the new species. The two species can, however, readily be separated by (i) the much darker pigmentation of body pedipalps and legs in *A. charlescorfieldi* sp. n., which is blackish yellow, whereas in *A. balzani* it is brownish yellow, (ii) the presence of spots on the telson and pleural membranes in *A. charlescorfieldi* sp. n., whereas in *A. balzani* these spots are absent, (iii) differences in cheliceral dentition: in *A. charlescorfieldi* sp. n. the movable finger has two basal teeth which are totally fused and extremely reduced, whereas in *A. balzani* the basal teeth are reduced but distinct; the basal and median teeth of fixed finger are more conspicuous in *A. charlescorfieldi* sp. n., whereas the subdistal tooth is stronger in *A. balzani*, (iv) the internal aspect of pedipalp tibia is armed with 7/8 strong spinoid granules in the new species, whereas in *A. balzani* only 2/3 vestigial granules are present, (v) in *A. charlescorfieldi* sp. n., the pectines are longer than those of *A. balzani*, and their extremities are not rounded as in the latter species.

Known distribution of the genus *Ananteris* in the Neotropical region

Species of the genus *Ananteris* have now been found in Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guyana, Guyana, Panama, Paraguay, Trinidad & Tobago and Venezuela.

More work in field will almost certainly detect species in Peru and Suriname. The genus seems to be absent from Uruguay, since extensive inventory work has been carried out in this country. As for Chile, buthid scorpions have shown to be totally absent from this country until now.

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