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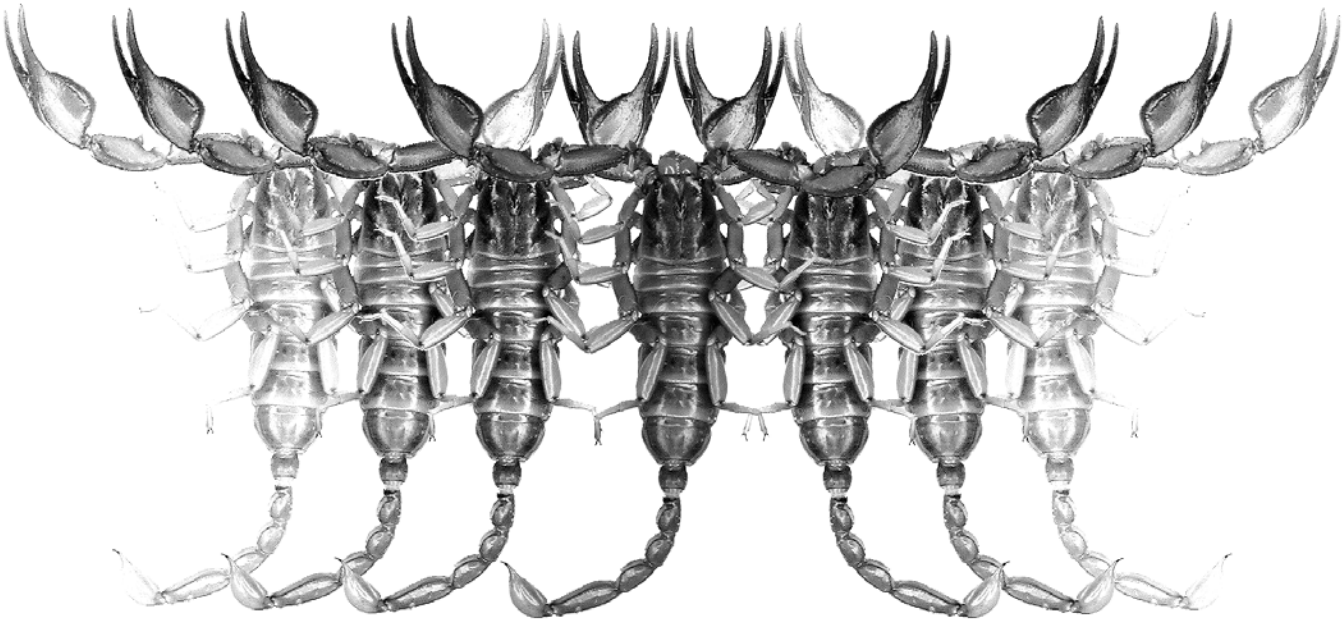

A New Species of *Ananteris* Thorell, 1891 (Scorpiones: Buthidae) from the Caribbean Region of Colombia

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A new species of *Ananteris* Thorell, 1891 (Scorpiones: Buthidae) from the Caribbean region of Colombia

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Summary

A new species of *Ananteris* Thorell, 1891 is herein described from a single locality in the Caribbean lowlands of Colombia, in northern Bolívar Department. This new taxon shares several unusual features with *Ananteris tolimana* Teruel et García, 2007, from the Andean region of Tolima Department. With this addition, the number of Colombian species of *Ananteris* is raised to seven.

Introduction

The genus *Ananteris* Thorell, 1891 in Colombia has been the subject of recent attention from taxonomists, and its number of species known from the country increased continuously in 25 years from zero to five (Lourenço, 1982, 1991, 1994, 1999; Lourenço & Flórez, 1989; Botero-Trujillo, 2007). More recently Teruel & García (2007) described a sixth species which possesses a combination of very unique morphological characters previously unknown in this genus, such as the presence of four pairs of lateral eyes, dorsolateral and lateral supramedian carinae of metasomal segments II–IV with the terminal granule enlarged and spiniform, sternites III and V each with a posteromedian smooth patch, and pedipalp fingers with six principal rows of granules of which the basalmost row is more than twice longer than the preceding, among others.

As a part of a joint research project on the systematics of Colombian scorpions, a research team is conducting field work in several areas of northeast Colombia, an effort that has already yielded several important discoveries of both undescribed and poorly known species (Teruel & García, 2007, 2008a, 2008b; Teruel & Roncallo, 2007, 2008). Among the material obtained, there is a single specimen of *Ananteris*, which was captured in northern Bolívar Department and represents a very distinctive new species of the genus, the seventh known from Colombia. This new species is formally described in the present paper.

Methods & Material

The specimens were studied, measured and photographed under a Zeiss Stemi 2000-C stereomicroscope, equipped with line scale and grid ocular micrometers, and a Canon PowerShot A620 digital camera, all calibrated to 20x. Digital images were slightly processed with Adobe Photoshop® 8.0, only to optimize bright and contrast features. Nomenclature and measurements follow Stahnke (1970), except for trichobotriotaxy (Vachon, 1974), metasomal carinae (Francke, 1977), and sternum (Soleglad & Fet, 2003). In Table 1, all measurements are given in millimeters as length/width/depth except for the carapace, where these correspond to length/posterior width. The holotype is deposited in the first author's personal collection (RTO), housed at BIOECO, with collecting and identification labels originally written in Spanish.

Systematics

Ananteris hasshy Teruel et Roncallo, **new species**
(Figures 1–3; Tables 1–2)

Diagnosis (based upon an adult male): species of moderately small size (21 mm) for the genus. Body yellowish with a very dense pattern of blackish brown spots; chelicerae with dense black reticulations; pedipalp chela with immaculate yellow hand and blackish fingers; telson almost immaculately reddish. Carapace with four pairs of lateral eyes. Sternites III and V with a smooth, translucent and flat posteromedian patch. Dorsolateral and lateral supramedian carinae of metasomal segments III–IV with the terminal granule greatly enlarged and spiniform. Telson elongated; vesicle smooth with a granulate medioventral crest, subaculear tubercle large and spiniform. Pedipalp fingers with six principal rows of granules, the basal most row more than twice longer than the preceding; fixed finger trichobothria *db* basal to *est*. Pectines without fulcra; tooth count 18/18.

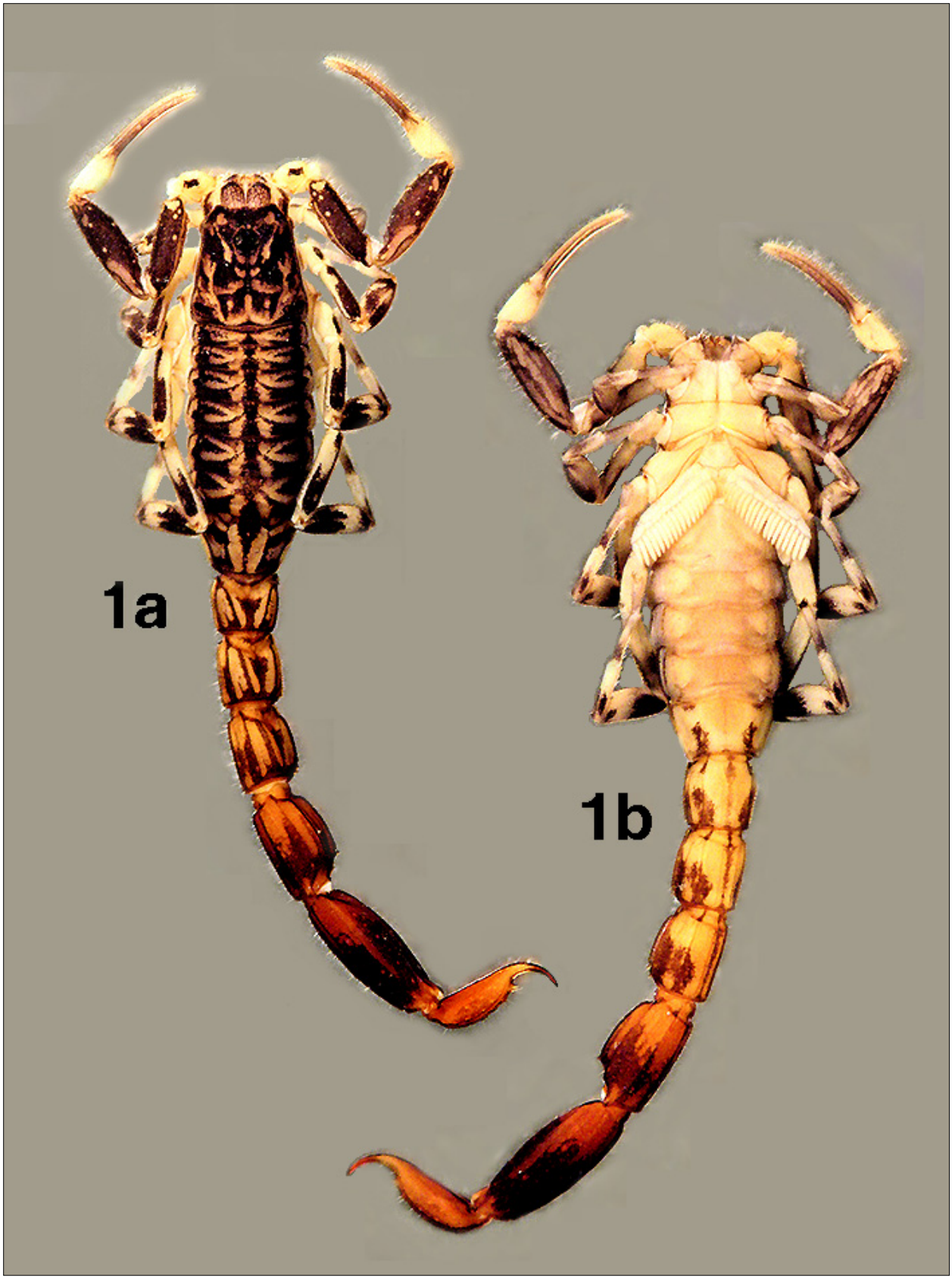

Figure 1: Adult male holotype of *Ananteris hasshy* **sp. n**.: **a)** entire dorsal view; **b)** entire ventral view.

Dimensions		♂ Holotype
Carapace	L/Wp	2.50 / 2.40
Mesosoma	L	5.15
Tergite VII	L/W	1.30 / 1.55
Metasoma	L	13.00
Segment I	L/W	1.25 / 1.40
Segment II	L/W	1.50 / 1.30
Segment III	L/W	1.55 / 1.30
Segment IV	L/W	2.35 / 1.30
Segment V	L/W	3.30 / 1.30
Telson	L	3.05
Vesicle	L/W/H	1.90 / 0.80 / 0.75
Aculeus	L	1.15
Pedipalp	L	7.90
Femur	L/W	2.20 / 0.65
Patella	L/W	2.65 / 0.75
Chela	L	3.05
Hand	L/W/H	0.65 / 0.55 / 0.55
Movable finger	L	2.40
Total	**L**	**20.65**

Table 1: Measurements of the adult holotype of *Ananteris hasshy* **sp. n.** Abbreviations: length (L), width (W), posterior width (Wp), depth (H).

Holotype: adult ♂ (RTO: Sco.0392): Colombia, Bolívar Department, Turbaco, Urbanización "La Granja"; 20 March 2008, R. Roncallo.

Etymology: this species is named after Hasshy Roncallo, the beloved youngest daughter of the second author. The specific epithet is an indeclinable noun in apposition taken directly from the native Wayúu language, where it means "new moon".

Distribution: known only from the type locality in the subcoastal area of northern Bolívar Department (Caribbean lowlands, Fig. 3).

Description (adult male holotype): **coloration** (Figs. 1–2) basically yellowish, with a very dense pattern of symmetric blackish spots all over the body and appendages, except for the telson and ventral region of preabdomen; metasomal segments IV–V and telson reddish. Chelicerae densely reticulated with blackish brown. Pedipalp trochanter yellow, only with a blackish dorsomedian spot; femur and patella very dark with a few yellow irregular spots, and yellow dots surrounding trichobothria; chela hand pale yellow, immaculate, fingers blackish with yellowish tips. Tergites with yellowish lateral margins and three roughly defined blackish longitudinal stripes separated by yellowish lines. Legs annulated in blackish brown and pale yellow. Pectines whitish. Sternites III–IV immaculate, V–VI diffusely spotted laterally; VII with spots arranged in two wide, discontinuous submedian stripes and traces of a thin, continuous ventromedian line. Metasomal segments I–III ventrally with two large, irregular spots over ventrolateral carinae and a thin blackish line between ventrosubmedian carinae; IV–V densely spotted. **Carapace** (Fig. 2a) trapezoidal and longer than wide; anterior margin sparsely setose, with two shallow concavities; tegument basically without carinae but very densely granulose, with larger granules scattered throughout; median eyes large, displaced forward and separate by about one ocular diameter; four pairs of lateral eyes: three large and aligned in a straight row close to the carapace edge, and one very small and placed above each second lateral eye. **Tergites** (Fig. 1a) with the same basic granulation as on

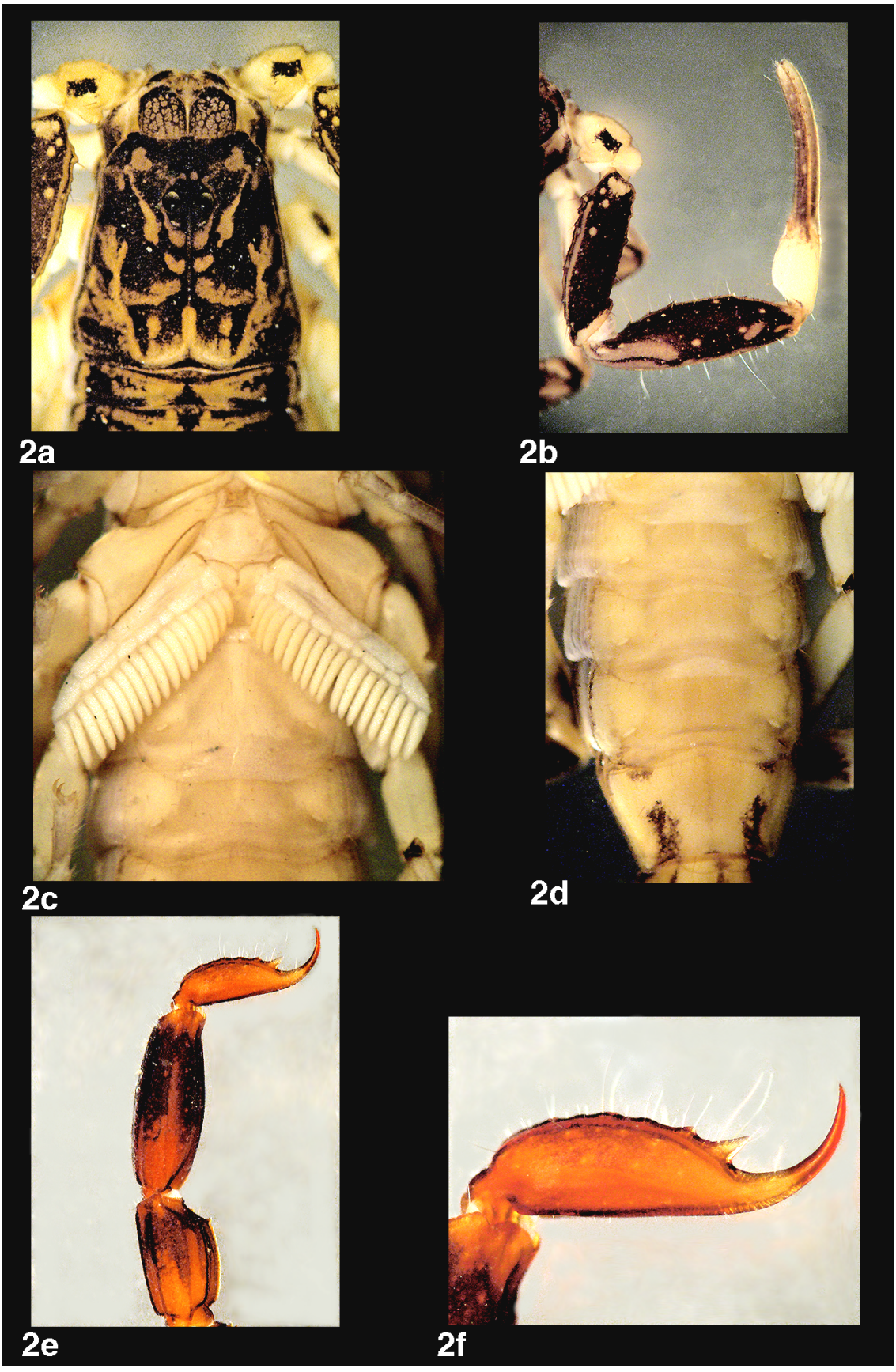

Figure 2: Adult male holotype of *Ananteris hasshy* **sp. n.**: **a)** carapace; **b)** pedipalp; **c)** sternopectinal region; **d)** sternites IV–VII; **e)** metasomal segments IV–V and telson, lateral view; **f)** telson, lateral view.

Morphometric ratios	***Ananteris hasshy* sp. n.**	***Ananteris columbiana***
Metasomal segment V (L / W)	2.54	2.33
Metasomal segment V (L) / Carapace (L)	1.32	1.22
Metasomal segment V (L) / Movable finger (L)	1.38	1.27
Telson vesicle (L / H)	2.53	1.14
Chela hand (L / H)	1.18	0.83

Table 2: Selected morphometric ratios of the adult male holotypes of *Ananteris hasshy* **sp. n.** and *Ananteris columbiana*, the latter taken from Lourenço (1991: 279; table 1) and corrected after Rojas-Runjaic & Armas (2007: 63). Abbreviations: length (L), width (W), depth (H).

carapace, longitudinal carina strongly granulose on all segments; VII with two pairs of strongly serrate lateral carinae. **Chelicerae** (Fig. 2a) with dentition typical for the genus; tegument smooth and polished. **Pedipalps** (Fig. 2b) orthobothriotaxic A-β; fixed finger trichobothria displaced to distal half, with *db* located basal to *est*. Femur with all carinae granulose, intercarinal tegument very finely granulose, internal surface without basal spur. Patella with all carinae very weak to obsolete; intercarinal tegument coriaceous, internal surface with several spiniform granules. Chela very slender; hand slightly elongate, very small (3.7 times shorter than movable finger), much narrower than patella, with all carinae obsolete and intercarinal tegument smooth; fingers evenly curved and long (but shorter than carapace and metasomal segment V), without basal lobe/notch combination, with six almost straight principal rows of granules of which the basalmost is exaggeratedly long (more than twice than the preceding), and the remaining are flanked by three accessory granules (two external and one internal), apical subrow of movable finger composed by five granules aligned similar to principal rows. **Legs** (Figs. 1a–b) with all carinae serrate, intercarinal tegument very densely granulose, with larger granules scattered throughout. **Sternum** (Fig. 2c) type 1, very small and pentagonal, typical for the genus. **Pectines** (Fig. 2c) large and straight, entirely lacking fulcra; basal lamella of the median area not modified; pectinal tooth count 18/18; basal plate metamerized, with a very deep anteromedian suture which almost divides it into two transversal, independent plates. **Sternites** (Figs. 2c–d) with spiracles relatively short and oval-elongate, becoming progressively longer from III–VI but never reaching the slit-like condition; sternite III coriaceous, with a smooth and translucent posteromedian patch, which is flat and poorly defined; IV–VI finely and densely granulose, without carinae, V with a large, smooth and translucent posteromedian patch, which is parabolloid-shaped, much wider than long and flat; VII very densely granulose, with larger granules scattered throughout, with a single pair of lateral granulose carinae on ventrosubmedian position. **Metasoma** (Figs. 1a–b, 2e–f) of average proportions for the genus (i.e., not conspicuously elongate or incrassate), all segments prismatic in cross-section except for V, which is cylindrical; segments I–II with ten complete carinae, III–IV with eight (even though the lateral inframedian carinae are present and strong on basal half of III), V with five, all weakly to moderately serrate and becoming progressively weaker from I–V, dorsolateral and lateral supramedian carinae on II–IV with the terminal granule greatly enlarged and spiniform; intercarinal tegument smooth to coriaceous, with many large granules scattered throughout; telson slightly elongate, vesicle smooth and polished, but with a moderately granulose medioventral carina which becomes progressively elevated through the subaculear tubercle, which is large and spiniform; aculeus long, sharp and evenly curved.

Ecological notes: the holotype, which is the only known specimen of *Ananteris hasshy* **sp. n.**, was found walking on the floor of a inhabited house at daytime (9:00 am). About 10 m right in front of this house there is a waste area which had just been cleared for urbanization purposes, and apparently this was the source of the specimen. The waste area has a karstic coralline soil which was originally covered by a tropical forest growing on a deep humus layer, a habitat which is typical for most species of this genus. An intensive search in and around the house did not yield additional specimens.

The collecting site is located on the right side of the road from Turbaco to Cartagena, at an altitude of 107 m a.s.l., in the piedmont of the Serranía de Abibe range, about 9 km inland from the Caribbean seashore. The daily mean temperature is over 29° C but drops markedly at night, and the average relative humidity is slightly over 87%.

Comparisons (adult males only): *Ananteris hasshy* **sp. n.** shares four interesting characters with *Ananteris tolimana* Teruel et García, 2007, from the Cordillera Central range: (1) four pairs of lateral eyes; (2) dorsolateral and lateral supramedian carinae of metasomal segments II–IV with the terminal granule enlarged and spiniform; (3) sternites III and V with a posteromedian smooth patch; (4) pedipalp fingers with six principal rows of granules, the basalmost row more than twice longer than the preceding. This Andean species can easily be disting-

Figure 3: Known distribution of the genus *Ananteris* in northern Colombia: *Ananteris leilae* (1), *Ananteris hasshy* **sp. n.** (2), *Ananteris columbiana* (3), and dubious records of the latter from Atlántico, Córdoba and Bolívar Departments (black squares).

uished from the former by its larger size (26 mm), higher pectinal tooth count (22–23), noticeably more slender telson and pedipalp chelae, different structure of the smooth patch on sternite V (bulky and white-colored), pectines comparatively much larger, and a different pattern of pigmentation (sternites and metasoma much more densely spotted, pedipalps with trochanter much darker and densely spotted, but femur and patella lighter and less densely spotted).

On the other hand, only two other species of this genus have been described from northern Colombia: *Ananteris leilae* Lourenço, 1999 from northern Chocó, and *Ananteris columbiana* Lourenço, 1991 from Sierra Nevada de Santa Marta (Fig. 3). Both taxa have size and pectinal tooth counts similar to *Ananteris hasshy* **sp. n.**, but differ markedly on the armature of the dorsolateral and lateral supramedian carinae of metasomal segments I–IV (stronger but evenly serrate, without conspicuously enlarged posterior granules), the number and structure of the principal rows of granules on pedipalp fingers (seven rows, with the basalmost row not as exaggeratedly longer), and the color pattern of the pedipalps (trochanter darker and more densely spotted, but femur and patela lighter and less densely spotted). Furthermore, *Ananteris columbiana* exhibits important morphometric differences (Table 2); unfortunately, the male of *Ananteris leilae* still remains undescribed and a similar analysis is not yet possible.

Remarks: Botero-Trujillo & Fagua (2007) recorded and photographed a specimen of this genus from El Nisperal (near Puerto Colombia, in north Atlántico Department), which they identified as a juvenile *Ananteris columbiana*. The excellent photos included as figs. 2–3 in that paper clearly show that it is actually an adult female which does not seem referable to that species. Since the overall morphology and color pattern of this specimen match well those of the holotype male of *Ananteris hasshy* **sp. n.**, and this locality is placed only 90 km northeast from Turbaco and at the same altitude (Fig. 3), it is very likely that both specimens are conspecific; nevertheless, this can only be tested through direct comparison of specimens of both sexes from each population. The same applies to two other records of *Ananteris columbiana* given by Botero-Trujillo (2007: 67): Barú Island (Cartagena) and Hacienda "El Ceibal" (Santa Catalina), which are located within the same general landscape and only 40 km to the southwest and 33 km to the northeast of Turbaco, respectively.

The present addition increases the number of *Ananteris* species described from Colombia to seven. Almost all of these species have relatively reduced and very well defined distributions, which are correlated to precise geographic conditions; the only exception is *Ananteris columbiana*, which was originally described from the Sierra Nevada de Santa Marta (Lourenço, 1982) but later recorded from three very disjunct localities

outside this mountain range (Fig. 3): Zambrano in Bolívar Department (Lourenço, 1999; Botero-Trujillo, 2007), Pueblo Nuevo in Córdoba Department (Botero-Trujillo, 2007), and El Nisperal in Atlántico Department (Botero-Trujillo & Fagua, 2007). However, the specimen from El Nisperal is apparently misidentified (see above), and the habitats in Zambrano and Pueblo Nuevo are very different from those confirmed for *Ananteris columbiana* in Santa Marta (C. Roncallo, personal observations). Thus, we dismiss these three records as dubious.

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References

BOTERO-TRUJILLO, R. 2007. A new species of *Ananteris* Thorell (Scorpiones: Buthidae) from Colombia. *Zootaxa*, 1595: 61–68.

BOTERO-TRUJILLO, R. & G. FAGUA. 2007. Additions to the knowledge of the geographical distribution of some Colombian scorpions (Buthidae: *Ananteris*, *Rhopalurus*, *Tityus*). *Revista Ibérica de Aracnología*, 14: 129–134.

FRANCKE, O. F. 1977. Scorpions of the genus *Diplocentrus* Peters from Oaxaca, Mexico. *Journal of Arachnology*, 4: 145–200.

LOURENÇO, W. R. 1982. Révision du genre *Ananteris* Thorell 1891 (Scorpiones: Buthidae) et description de six espèces nouvelles. *Bulletin du Muséum national d'Histoire naturelle*, 4e série, 4A(1–2): 119–151.

LOURENÇO, W. R. 1991. Les scorpions de Colombie, II. Les faunes des régions de Santa Marta et de la Cordillère orientale. Approche biogéographique. *Senckenbergiana Biologica*, 71(4/6): 275–288.

LOURENÇO, W. R. 1994. Scorpions Chelicerata de Colombie. VI. Quatre nouvelles espèces de Buthidae des régions Amazonienne, Sud-Pacifique et de la Cordillère orientale. *Revista de la Academia Colombiana de Ciencias*, 19(73): 387–392.

LOURENÇO, W. R. 1999. New species of *Ananteris* from the north of Chocó, Colombia (Scorpiones: Buthidae). *Anales del Instituto de Biologia Universidad Nacional Autónoma de México, serie Zoologia*, 70(2): 93–98.

LOURENÇO, W. R. & E. FLÓREZ. 1989. Los escorpiones (Chelicerata) de Colombia. I. La fauna de la isla Gorgona. Aproximación biogeográfica. *Caldasia*, 16(17): 60–70.

ROJAS-RUNJAIC, F. J. M. & L. F. DE ARMAS. 2007. Dos nuevas especies venezolanas del grupo *Tityus clathratus* y notas sobre *Tityus ramirezi* Esquivel de Verde, 1968 (Scorpiones: Buthidae). *Boletín de la Sociedad Entomológica Aragonesa*, 41: 53–66.

SOLEGLAD, M. E. & V. FET. 2003. The scorpion sternum: structure and phylogeny (Scorpiones: Orthosterni). *Euscorpius*, 5: 1–34.

STAHNKE, H. L. 1970. Scorpion nomenclature and mensuration. *Entomological News*, 81: 297–316.

TERUEL, R. & L. F. GARCÍA. 2007. A new species of *Ananteris* Thorell, 1891 from Cordillera Central in Colombia, with some notes on the taxonomy of the genus (Scorpiones: Buthidae). *Euscorpius*, 60: 1–8.

TERUEL, R. & L. F. GARCÍA. 2008a. Rare or poorly known scorpions from Colombia. I. Redescription of *Tityus macrochirus* Pocock, 1897 (Scorpiones: Buthidae). *Euscorpius*, 63: 1–11.

TERUEL, R. & L. F. GARCÍA. 2008b. Rare or poorly known scorpions from Colombia. II. Redescription of *Tityus columbianus* (Thorell, 1876) (Scorpiones: Buthidae). *Euscorpius*, 64: 1–14.

TERUEL, R. & C. A. RONCALLO. 2007. A new species of *Tarsoporosus* Francke, 1978 (Scorpiones: Scorpionidae: Diplocentrinae) from northeastern Colombia. *Euscorpius*, 62: 1–8.

TERUEL, R. & C. A. RONCALLO. 2008. Rare or poorly known scorpions from Colombia. III. On the taxonomy and distribution of *Rhopalurus laticauda* Thorell, 1876 (Scorpiones: Buthidae), with description of a new species of the genus. *Euscorpius*, 68: 1–12.

VACHON, M. 1974. Études des caractères utilisés pour classer les familles et les genres des scorpions (Arachnides). 1. *Bulletin du Muséum national d'Histoire naturelle*, 3e série, 140 (Zoologie, 104): 857–958.