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Eric Ythier

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A new high-altitude scorpion species of the genus *Ananteris* Thorell, 1891 (Scorpiones: Ananteridae) from the Pico da Neblina, Brazil

ERIC YTHIER

BYG Taxa, 382 rue des Guillates, F-71570 Romanèche-Thorins, France. - contact@bygtaxa.com
- ZooBank: http://zoobank.org/06FD0852-A88E-49E5-B8E6-E1494B86C4E1 - Orcid: https://orcid.org/0000-0002-3194-5184

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Abstract. – A new species belonging to the genus *Ananteris* Thorell, 1891 (family Ananteridae Pocock, 1900, **stat**. **n**.) is described on the basis of one male specimen collected at the Pico da Neblina, Brazil. *Ananteris lourencoi* **sp**. **n**. was collected between 2000-2300 m altitude, representing to our knowledge the highest altitude record for the genus *Ananteris*. The description of this new species brings further evidence about the biogeographic patterns of distribution presented by most species of the genus *Ananteris*, which are highly endemic in most natural formations of South America. This new scorpion taxon represents the 97th described species among the currently recognized species for the genus *Ananteris* (the 31st described from Brazil) and the 128th species described for the family Ananteridae **stat**. **n**. which is hereby confirmed as a valid family. The composition, distribution and altitude for the members of this family are discussed.

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Introduction

The position of subfamilies within the family Buthidae C. L. Koch has always been a subject of discussion. Lourenço (*e.g.* 2012, 2015, 2021) has particularly well summarized the history of Buthidae subfamilies and notably of the subfamily Ananterinae (sensu Pocock, 1900), or '*Ananteris* group' (sensu Fet *et al.*, 2005) as preferred by some authors, and for this reason I decided to restate parts of his comments below.

Kraepelin (1891) recognized three subfamilies in the family Androctonidae C. L. Koch (Androctonini C. L. Koch, Isometrini Kraepelin and Centrurini Kraepelin). Subsequently, he used the family name Buthidae and listed only two subfamilies, Buthinae C. L. Koch and Centrurinae Kraepelin, distinguishing them by the presence or absence of tibial spurs on the legs (Kraepelin, 1899). The subfamily Ananterinae was first proposed by Pocock (1900) to better situate the genus *Ananteris* Thorell (Thorell, 1891). He wrote as follows: "*I propose to eliminate from this subfamily (Buthinae) the isolated Neotropical genus Ananteris, which differs strikingly from the rest of the family in the structure of the pectines. The subfamily Ananterinae may be created for its reception*". A few years later, Kraepelin (1905) accepted the Ananterinae subfamily described by Pocock (1900) and included it together with the Tityinae Kraepelin in the family Buthidae. The Ananterinae were diagnosed by the absence of fulcra on the pectines, while the diagnosis of other subfamilies was mainly based on differences in the dentition of the pedipalp chela fingers. Later, Birula (1917) distinguished three subfamilies (Buthinae C. L. Koch, Isometrinae Kraepelin and Orthochirinae Birula) using completely different diagnostic characters. However, most of the authors which subsequently worked with the Old World Buthidae (*e.g.* Werner, 1934; Vachon, 1952, Levy & Amitai, 1980) finally followed the classification proposed by Kraepelin (1905).

After the description of the genus *Ananteris*, other genera were described showing morphological characters which associate them to the Ananterinae (or '*Ananteris* group'). These morphological traits were discussed by Fet *et al.* (2005) and Lourenço (2005, 2011, 2021) and were notably related to a small size, the persistence of neotenic structures in the adults (*e.g.* absence of fulcra on pectines), pedipalp chela fingers with 6 or 7 rows of granules, weak carination and granulation, tibial spurs present in most cases, trichobothrial pattern orthobothriotaxic usually of type *beta*, a weak sexual dimorphism and, in most cases, a cryptozoic behaviour as well as the existence of some humicolous species. These characters demonstrated the relationship between the following genera: *Ananteris* Thorell, 1891, *Tityobuthus* Pocock, 1893, *Ananteroides* Borelli, 1911 *Lychasioides* Vachon, 1974, *Himalayotityobuthus* Lourenço, 1997, *Troglotityobuthus* Lourenço, 2000, *Microananteris* Lourenço, 2003, as well as the fossil elements found in Baltic and Burmite ambers, namely †*Palaeotityobuthus* Lourenço & Weitschat, 2000, †*Palaeoananteris* Lourenço & Weitschat, 2001 and †*Archaeoananteroides* Lourenço, 2016. The association of all these genera clearly indicates a Gondwanian or even broader pattern of distribution for this ancient lineage of buthid scorpions present since at least the Palaeocene (Baltic amber) and probably even older (Lourenço, 2011; Lourenço & Weitschat, 2000, 2001; Lourenço & Velten, 2016; Lourenço *et al.*, 2016).

In addition to these morphological characters, more recent phylogenomic analyses (*e.g.* Štundlová *et al.*, 2022; Santibañez *et al.*, 2022, 2023) brought additional information on the position of the morpho-groups traditionally included within the family Buthidae. The family status of the '*Ananteris* group' (Ananterinae) was finally suggested in the revised higher-level classification of extant scorpions proposed by Santibañez *et al.* (2023). Since this

Reviewer: Gérard Dupré (*France*).

new family status was not formally indicated in this paper, and the author of the family was incorrectly stated, we hereby confirm the family Ananteridae Pocock, 1900 **stat**. **n**. as a valid family.

Vachon (1986) suggested a close relationship between the genera *Ananteris* and *Lychas* C. L. Koch, 1845 and the latter was regularly associated to the subfamily Ananterinae or '*Ananteris* group' (Fet *et al.*, 2005, Lourenço, 2011, 2012, Lourenço *et al.*, 2016). However, the genus *Lychas* contains species showing different grades of evolutionary development and might represent a 'link' between the elements of the most basal Ananterinae and other more evolved buthids. The genus *Lychas* was finally excluded by Lourenço (2021) from the genera suggested to be accommodated within the Ananterinae and is also excluded from this work until more phylogenomic information become available (together with its associated genera *Afrolychas* Kovařík, 2019, *Janalychas* Kovařík, 2019, *Spelaeolychas* Kovařík, 2019 and the fossil element from Baltic amber †*Palaeolychas* Lourenço & Weitschat, 1996). This is also the case for the genus *Akentrobuthus* Lamoral, 1976 from Western Africa, included in the '*Ananteris* group' by Fet *et al.* (2005) but previously suggested by Lourenço (1998) to be associated to the Malagasy genus *Microcharmus* Lourenço, 1995, which we prefer to exclude from the Ananteridae **stat**. **n**. work until additional molecular information is available.

As already outlined in recent publications (Lourenço, 2015; Lourenço & Motta, 2019; Lourenço *et al.*, 2013, 2020; Ythier, 2018; Ythier *et al.*, 2020), the genus *Ananteris* was originally created for the species *A. balzanii* Thorell, 1891 from Brazil (Thorell, 1891), then this genus remained inconspicuous for almost a century with only three species described. In recent years, the number of *Ananteris* species knew a significant growing, starting with the revision by Lourenço (1982) which was followed by the description of numerous species from almost all regions of South America, particularly from Brazil, Venezuela and the countries of the Guayana region (*e.g.* González-Sponga, 2006; Lourenço, 2015, 2020, 2021; Lourenço & Motta, 2019, 2021; Lourenço *et al.*, 2020; Ythier, 2018; Ythier *et al.*, 2020), however with a possible artificial characterization of several species. The genus *Ananteris* now comprises 96 species, occupying the third rank among scorpion genera in term of number of species, after the genera *Tityus* C. L. Koch (233 species) and *Centruroides* Marx (102 species).

A scientific expedition conducted during the southern hemisphere summer 2001-2002 in the Parque Nacional do Pico da Neblina, Brazil, yielded some scorpions specimens, including the type material of *Tityus* (*Atreus*) *neblina* Lourenço, 2008, collected between 850-2200 m altitude, and a specimen of the genus *Ananteris*, collected between 2000-2300 m altitude, close to the border with Venezuela. The new species described here represents to our knowledge the highest altitude record for the genus *Ananteris*, and the second highest altitude record for the family Ananteridae **stat**. **n**.

Material and methods

Illustrations and measurements were produced using a Wild M5 stereo-microscope with a drawing tube and an ocular micrometer. Map was made using maps-for-free.com and Adobe Photoshop software. Measurements follow Stahnke (1970) and are given in mm. Trichobothrial notations follow Vachon (1974), morphological terminology mostly follows Vachon (1952) and Hjelle (1990), and chelicerae dentition follows Vachon (1963). The type material described herein will be deposited in the Museu Nacional, Rio de Janeiro, Brazil (MNRJ).

Fig. **1**-**2**. *Ananteris lourencoi* **sp**. **n**., ♂ holotype, habitus. **1**. Dorsal aspect. **2**. Ventral aspect.

Taxonomic treatment

Family **Ananteridae** Pocock, 1900, **stat**. **n**.

Diagnosis. – Scorpions of very small to small size (9 to 41 mm); pectines without fulcra in most cases (except in a few *Tityobuthus* species); pedipalp chela fingers with 6 or 7 longitudinal rows of granules; median ocular tubercle very distinctly anterior to the center of carapace; granulation generally weak to moderate; carination weakly marked on carapace, tergites with a median carina only, weak to moderate; telson with a fusiform shape in most cases, sometimes bulbous but with aculeus always shorter than vesicle; subaculear tooth usually strong, with a spinoid or rhomboid shape; tibial spurs present in the majority of species of all genera (except in a few *Tityobuthus* species); secondary sexual dimorphism generally weak, most species having a similar morphology between males and females; trichobothrial pattern orthobothriotaxic, of type *beta* in most genera (except *Tityobuthus*, *Troglotityobuthus* and †*Palaeoananteris*, with an *alpha* disposition).

Composition of the family Ananteridae **stat**. **n**. (in order of description)

- *Ananteris* Thorell, 1891 (Argentina, Bolivia, Brazil, Colombia, Costa-Rica, Ecuador, French Guiana, Guyana, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Venezuela)
- *Tityobuthus* Pocock, 1893 (Madagascar)
- *Ananteroides* Borelli, 1911 (Guinea, Guinea-Bissau, Mauritania)
- *Lychasioides* Vachon, 1974 (Cameroon)
- *Himalayotityobuthus* Lourenço, 1997 (India, Nepal)
- †*Palaeotityobuthus* Lourenço & Weitschat, 2000 (Baltic amber)
- *Troglotityobuthus* Lourenço, 2000 (Madagascar)
- †*Palaeoananteris* Lourenço & Weitschat, 2001 (Baltic amber)
- *Microananteris* Lourenço, 2003 (French Guiana)
- †*Archaeoananteroides* Lourenço, 2016 (Burmese amber)

Genus ***Ananteris*** Thorell, 1891

Ananteris lourencoi **sp**. **n**.

(Fig. 1-11)

ZooBank: https://zoobank.org/5473AF7F-EAB3-4730-8079-DB02031B8903

Holotype, ♂, Brazil, Parque Nacional do Pico da Neblina, border with Venezuela, 2000-2300 m alt., collected by local people (A. Gomez leg.), XII/2001, deposited in the MNRJ.

Etymology. – The specific name honours my colleague Dr. Wilson R. Lourenço, in recognition of his 50 years of scientific publications. Moreover, Dr. Lourenço has described 60% of the species of the family Ananteridae **stat**. **n**., including more than half of the species of the genus *Ananteris*.

Diagnosis. – Species of small size when compared with the average size of the other species of the genus; male with 15.4 mm in total length (see measurements after the description). General coloration yellowish with brownish pigmented zones on the body and appendages; chelicerae pale yellow with only a small variegated dark brown spot anteriorly, at the base of fingers. Chela fixed and movable fingers with 6-7 longitudinal rows of granules, respectively. Pectines of male holotype with 16-17 teeth; female unknown. Telson with a fusiform shape and strong and spinoid subaculear tubercle. Carinae and granulation weakly to moderately marked. Metasomal segments with 10-8-8-8-5 carinae. Trichobothriotaxy of type A-*beta*.

Description based on male holotype

Coloration. – Generally yellowish with brownish pigmented zones on the body and appendages. Carapace yellowish with brown spots, better marked anteriorly; lateral and posterior edges rather pale, with less spots; median ocular tubercle very dark, almost black. Mesosoma yellowish with confluent dark brown spots on tergites I to VI; tergite VII with a triangular central dark brown spot and dark brown spots with paler centre on lateral sides. Sternites greyish yellow; pectines pale yellow; genital operculum, sternum and coxapophysis yellowish, without pigmented spots. Metasoma with all segments yellowish; dorsal side of segments I to IV with a triangular brown spot; ventral and lateral sides of all segments with dark brown spots, better marked on their posterior half. Telson with vesicle yellowish; base of aculeus pale yellow, tip yellowish. Chelicerae pale yellow with only a small variegated dark brown spot anteriorly, at the base of fingers; fingers yellowish with brown spots on movable finger; teeth reddish. Pedipalp femur with dorsal side almost entirely marked with diffused brown spots, with few yellowish zones posteriorly; patella yellowish with longitudinal brown spots; chela hand yellowish with brownish spots; fingers brownish with tip pale yellow. Legs pale yellow, marked with diffuse brown spots.

Morphology. – Carapace with weakly marked granulation over the entire surface, less marked on the anterior part; anterior margin almost straight, with a minute median convexity; carinae (Vachon, 1952) weak to vestigial; furrows weak; median ocular tubercle distinctly anterior to the center of carapace; median eyes separated by less than one ocular diameter; three pairs of lateral eyes. Tergites with weakly marked granulation, similar to that of carapace, better marked posteriorly; axial carina moderately marked on all tergites; tergite VII pentacarinate, axial carina incomplete, median and lateral pairs of carinae complete. Sternum subpentagonal. Pectinal tooth count 17-18 in male holotype, female unknown; fulcra absent. Sternites weakly granular, almost smooth; spiracles linear, elongated. Metasomal segment I with 10 complete carinae, II-IV with 8 complete carinae, V slightly rounded with 5 complete carinae; all carinae moderately crenulate; dorsal carinae of segments I to IV with a spinoid granule on their posterior part; intercarinal spaces smooth. Telson elongated with a fusiform shape, smooth; ventral median carina marked with spinoid granules; aculeus with a subaculear tooth strong and spinoid. Pedipalp femur with five carinae almost complete; patella with carinae slightly less marked, sometimes incomplete; internal face of patella with 5-6 minute spinoid granules; chela with carinae weak to vestigial, almost always incomplete, made of scattered minute granules; fixed and movable fingers with 6-7 longitudinal rows of granules, respectively, almost straight or slightly oblique; separated by bigger granules; three granules in the extremity of the fingers. Legs with tibial spurs well developed. Cheliceral dentition characteristic of the family (Vachon, 1963). Trichobothriotaxy: orthobothriotaxy of type A-*beta* (Vachon, 1974, 1975).

Morphometric values (mm) of the male holotype.

- **Total length** (including the telson) 15.38.
- **Carapace**
  length 1.97;
  anterior width 1.11;
  posterior width 1.67.
- **Mesosoma**: length 3.93.
- **Metasomal segments**
  I: length 0.98, width 1.02;
  II: length 1.02, width 0.95;
  III: length 1.15, width 0.92;
  IV: length 1.51, width 0.89;
  V: length 2.43, width 0.89, depth 0.98.
- **Telson**: length 2.39.
- **Vesicle**: width 0.72, depth 0.59.
- **Pedipalp**
  femur, length 1.84, width 0.46;
  patella, length 2.20, width 0.59;
  chela, length 2.69, width 0.39, depth 0.43.
- **Movable finger**: length 2.03.

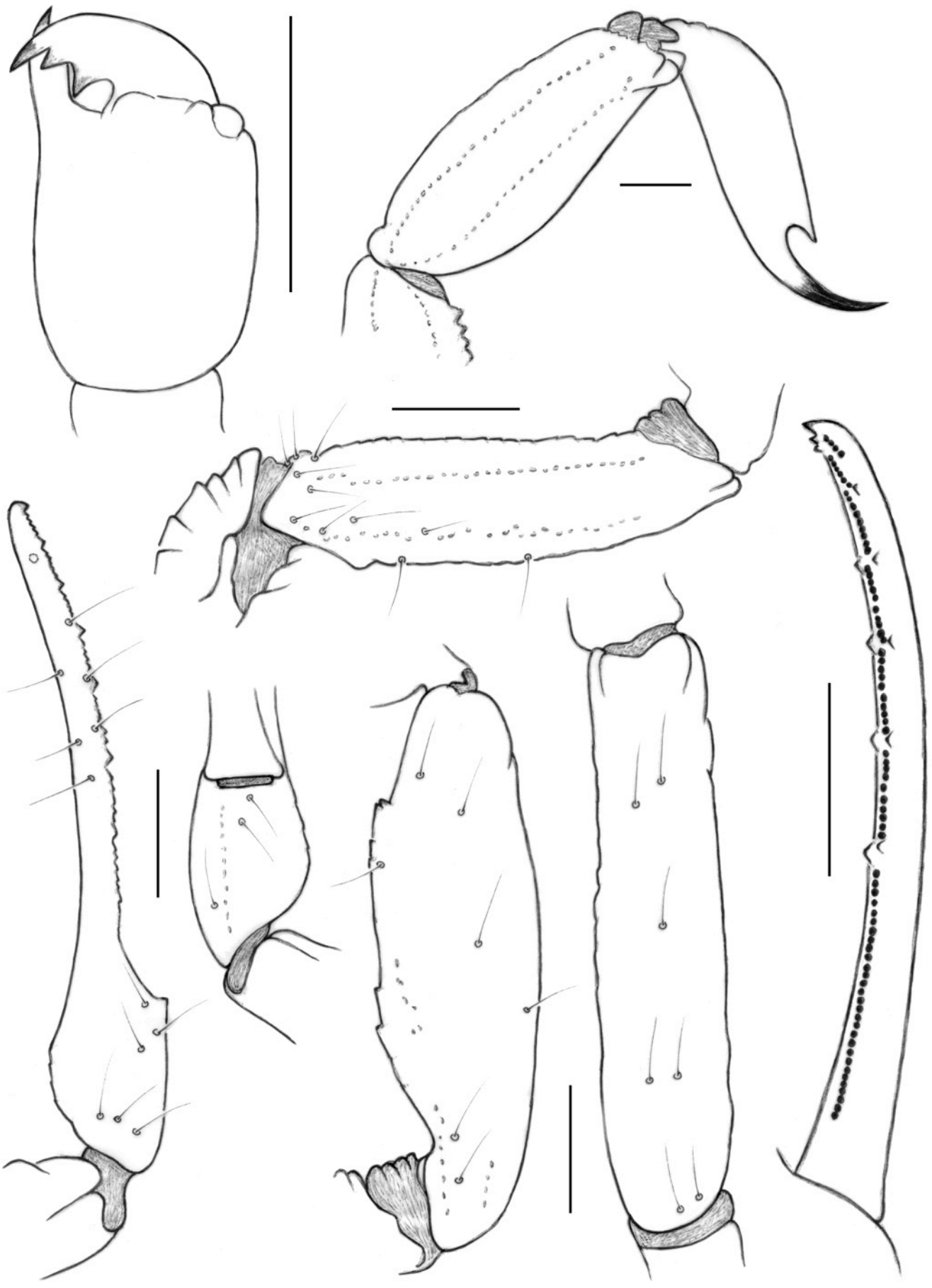

Fig. **3**-**10**. *Ananteris lourencoi* **sp**. **n**., ♂ holotype (Scale bars = 0.5 mm).

3. Right chelicera, dorsal aspect. **4**. Metasomal segment V and telson, lateral aspect. **5**-**9**. Trichobothrial pattern. **5**. Right femur, dorsal aspect. **6**-**7**. Right chela, dorso-external (6) and ventral (7) aspects. **8**-**9**. Right patella, dorsal (8) and external (9) aspects. **10**. Cutting edge of right chela movable finger with rows of granules.

Relationships. – *A. lourencoi* **sp**. **n**. can be readily distinguished from the geographically closest *Ananteris* species, namely:

A. faguasi Botero-Trujillo, 2009 and *A. volschenki* Botero-Trujillo, 2009 from Colombia,

A. dekeyseri Lourenço, 1982, *A. pydanieli* Lourenço, 1982, *A. nairae* Lourenço, 2004, *A. cryptozoicus* Lourenço, 2005, *A. roraima* Lourenço & Duhem, 2010 and *A. palmari* Botero-Trujillo & Noriega, 2011 from Brazil,

A. venezuelensis González-Sponga, 1972, *A. turumbanensis* González-Sponga, 1980 and *A. chirimakei* González-Sponga, 2006 from Venezuela,

A. michaelae Lourenço, 2013 from Guyana (Fig. 12),

by the following main features:

(i) a small size, with a total length of 15.4 mm in male (males bigger with 20.8 mm in *A. michaelae*, 22.1 mm in *A. pydanieli*, 22.2 mm in *A. chirimakei*, 23.0 mm in *A. turumbanensis*, 23.4 mm in *A. roraima*, 25.5 mm in *A. dekeyseri* and 40.9 mm in *A. venezuelensis*; while male of *A. cryptozoicus* is smaller with 10.81 mm);

(ii) chelicerae pale yellow with only a small variegated dark brown spot anteriorly, at the base of fingers (uniformly yellowish without any spots in *A. cryptozoicus* and *A. pydanieli*; yellowish with variegated darker spots over the entire surface in *A. nairae*, *A. palmari*, *A. roraima* and *A. turumbanensis*, over the entire surface except a thin zone at the base of fingers in *A. volschenki*, and with an incomplete pattern basally and externally in *A. dekeyseri*);

(iii) fixed and movable fingers with 6-7 longitudinal rows of granules, respectively (6-5 in *A. cryptozoicus*, 6-6 in *A. nairae*, *A. roraima* and *A. michaelae*);

(iv) pectinal tooth count 17-18 in male (15-15 in *A. volschenki)*;

(v) telson with a fusiform shape, with length/depth ratio 4.05 (more elongated in *A. dekeyseri* with length/depth ratio 6.0, less elongated in *A. turumbanensis* with length/depth ratio 3.14),

(vi) metasomal segment II without any median lateral carinae (present, even incomplete, in *A. palmari*, *A. roraima*, *A. turumbanensis*, *A. faguasi* and *A. michaelae*);

(vii) quite different trichobothrial pattern of dorsal aspect of femur, notably from *A. cryptozicus*, *A. venezuelensis*, *A. palmari* and *A. turumbanensis* (Fig. 11);

(viii) moreover, the new species was found at high altitude (between 2000-2300 m a.s.l.) while all other species were found between 50-260 m altitude, except *A. chirimaki* (895 m) and *A. venezuelensis* (between 900-1400 m) (Fig. 12, 13).

Biogeographic considerations

As previously indicated, the following genera can be accommodated in the family Ananteridae **stat**. **n**.: *Ananteris* Thorell and *Microananteris* Lourenço from Latin America, *Ananteroides* Borelli and *Lychasioides* Vachon from Western Africa, *Tityobuthus* Pocock and *Troglotityobuthus* Lourenço from Madagascar, *Himalayotityobuthus* Lourenço from the Himalayas, as well as the fossil genera †*Palaeotityobuthus* Lourenço & Weitschat and †*Palaeoananteris* Lourenço & Weitschat from Baltic amber and †*Archaeoananteroides* Lourenço from Burmese amber. The biogeographic patterns presented by extant and fossil genera of this family confirm not only the characteristics of a group presenting a typical Gondwanian distribution, but also correspond to older Pangaean patterns (Fig. 14).

Members of this family are present in most types of Biomes including rainforests, savannas, bushes, montane vegetation and arid or desert formations. They have also been recorded over a wide range of altitudes, going from 10 m a.s.l. (*Ananteris bonito* Lourenço, 2012 from Parnaíba river's delta in Brazil) to 2600 m a.s.l. (*Himalayotityobuthus martensi* Lourenço, 1997 from Pir Panjal mountains in India). The average altitude for the family is 407 m a.s.l., while the average of the maximum altitudes is 448 m a.s.l. (440 m a.s.l. for the genus *Ananteris*; 473 m a.s.l. for all other genera; see Fig. 13).

The new species described here from the Pico da Neblina (Fig. 15), *A. lourencoi* **sp**. **n**., represents to our knowledge the highest altitude record for the genus *Ananteris* (followed by *A. dorae* Botero-Trujillo, 2008 collected at an altitude of 1885 m a.s.l. in the Reserva Natural La Planada in Colombia) and the second highest altitude record for the family Ananteridae **stat**. **n**. (after *H. martensi* Lourenço mentioned above). It is to be noted that the probable record of about 3000 m a.s.l. for the holotype of *A. festae* Borelli 1899 from "Rio Peripa" in the Province of Pechincha, Ecuador (Lourenço, 1999), is most likely erroneous. The Peripa river begins its course around Santo Domingo, located at 450 m a.s.l. Moreover, all other collected specimens were found between 200-700 m a.s.l. Finally, on the course of the Peripa river, there is a locality called "Rio Peripa" located at 150 m a.s.l.

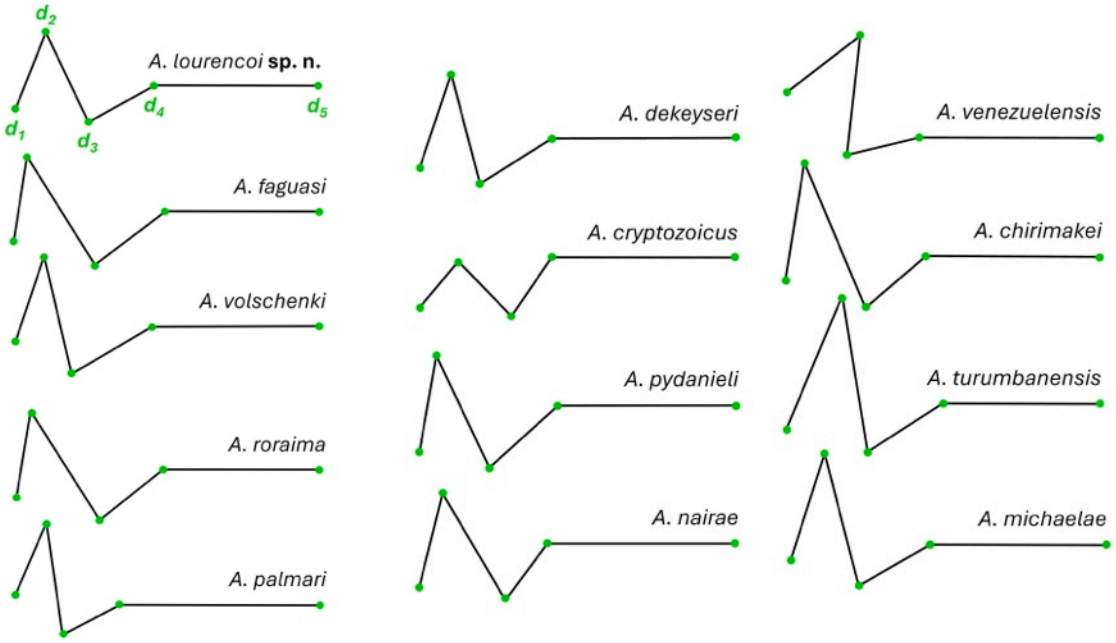

Fig. **11**. Diagrammatic trichobothrial patterns of dorsal aspect of right femur for the *Ananteris* species compared in this work (scale adjusted and d_4-d_5 lines presented horizontally for comparison purpose).

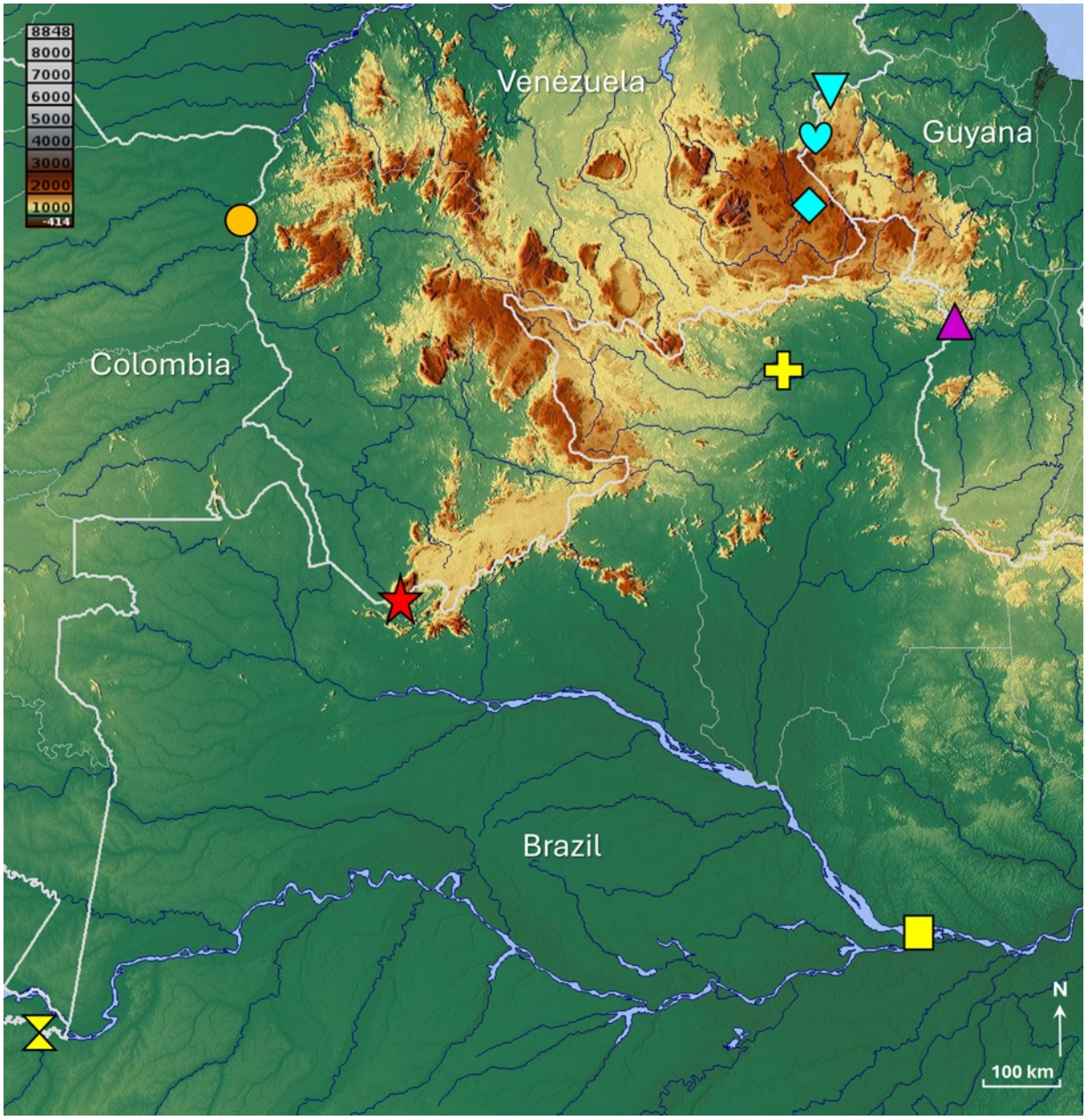

Fig. **12**. Topographic map of northern Amazon showing the type localities of *A. lourencoi* **sp**. **n**. (red star) and the geographically closest *Ananteris* species: *A. faguasi* and *A. volschenki* (orange circle), *A. roraima* (yellow cross), *A. palmari* (yellow hourglass), *A. cryptozoicus*, *A. dekeyseri*, *A. nairae* and *A. pydanieli* (yellow square), *A. chirimakei* (blue diamond), *A. venezuelensis* (blue heart), *A. turumbanensis* (blue inverted triangle) and *A. michaelae* (purple triangle).

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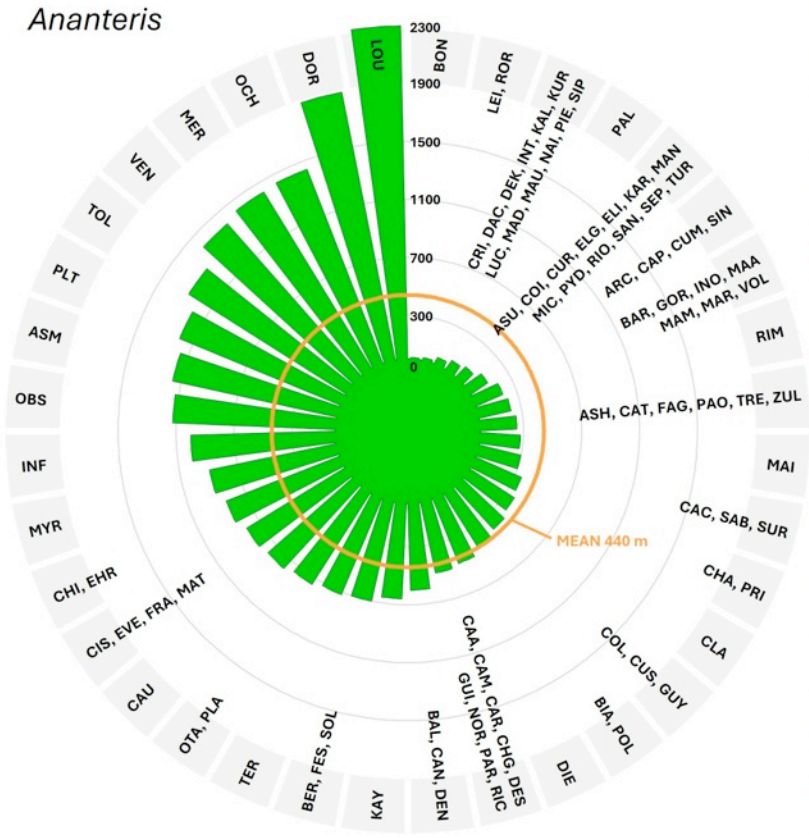
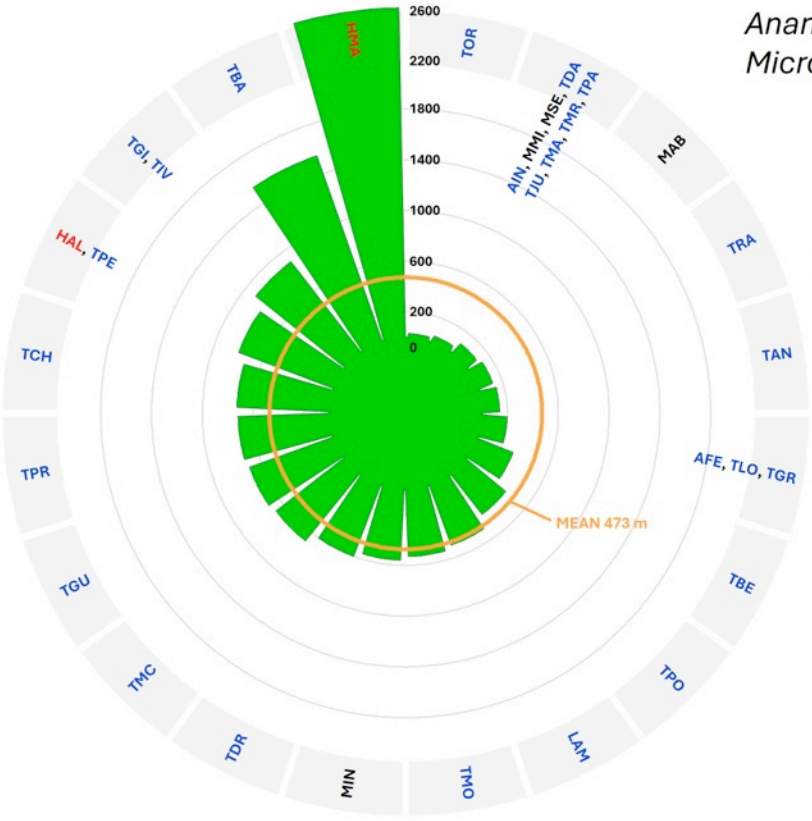


ARC	*A. arcadioi* Botero-Trujillo, 2008
ASH	*A. ashaninka* Kovařík *et al.*, 2015
ASM	*A. ashmolei* Lourenço, 1981
ASU	*A. asuncionensis* González-Sponga, 2006
BAL	*A. balzanii* Thorell, 1891
BAR	*A. barinensis* González-Sponga, 2006
BER	*A. bernabei* Giupponi *et al.*, 2009
BIA	*A. bianchinii* Lourenço *et al.*, 2009
BON	*A. bonito* Lourenço, 2012
CAA	*A. carrasco Lourenço & Motta, 2019*
CAC	*A. cachimboensis* Lourenço *et al.*, 2006
CAM	*A. camacan* Lourenço *et al.*, 2013
CAN	*A. canalera* Miranda & Armas, 2020
CAP	*A. capayaensis* González-Sponga, 2006
CAR	*A. caracensis* González-Sponga, 2006
CAT	*A. catuaroi* González-Sponga, 2006
CAU	*A. caucaguitensis* González-Sponga, 2006
CHA	*A. charlescorfieldi* Lourenço, 2001
CHG	*A. chagasi* Giupponi *et al.*, 2009
CHI	*A. chirimakei* González-Sponga, 2006
CIS	*A. cisandinus* Lourenço, 2015
CLA	*A. claviformis* González-Sponga, 2006
COI	*A. coineaui* Lourenço, 1982
COL	*A. columbiana* Lourenço, 1991
CRY	*A. cryptozoicus* Lourenço, 2005
CUM	*A. cumbensis* González-Sponga, 2006
CUR	*A. curariensis* González-Sponga, 2006
CUS	*A. cussinii* Borelli, 1910
DAC	*A. dacostai* Ythier *et al.*, 2020
DEK	*A. dekeyseri* Lourenço, 1982
DEN	*A. deniseae* Lourenço, 1997
DES	*A. desiderio* Lourenço *et al.*, 2013
DIE	*A. diegorojasi* Rojas-Runjaic, 2005
DOR	*A. dorae* Botero-Trujillo, 2008
EHR	*A. ehrlichi* Lourenço, 1994
ELG	*A. elguapoi* González-Sponga, 2006
ELI	*A. elisabethae* Lourenço, 2003
EVE	*A. evellynae* Lourenço, 2004
FAG	*A. faguasi* Botero-Trujillo, 2009
FES	*A. festae* Borelli, 1899
FRA	*A. franckei* Lourenço, 1982
GOR	*A. gorgonae* Lourenço & Flórez, 1989
GUI	*A. guiripaensis* González-Sponga, 2006
GUY	*A. guyanensis* Lourenço & Monod, 1999
INF	*A. infuscata* Lourenço *et al.*, 2013
INO	*A. inoae* González-Sponga, 2006
INT	*A. intermedia* Lourenço, 2012
KAL	*A. kalina* Ythier, 2018
KAR	*A. karupina* Lourenço, 2021
KAY	*A. kayapo* Lourenço, 2022
KUR	*A. kuryi* Giupponi *et al.*, 2009
LEI	*A. leilae* Lourenço, 1999
LOU	*A. lourencoi* **sp. n.**
LUC	*A. luciae* Lourenço, 1984
MAA	*A. maranhensis* Lourenço, 1987
MAD	*A. madeirensis* Lourenço & Duhem, 2010
MAI	*A. mariaelenae* Lourenço, 1999
MAM	*A. mamilihpan* Ythier *et al.*, 2020
MAN	*A. maniapurensis* González-Sponga, 2006
MAR	*A. mariaterezae* Lourenço, 1982
MAT	*A. martensi* Lourenço, 2021
MAU	*A. mauryi* Lourenço, 1982
MER	*A. meridana* González-Sponga, 2006
MIC	*A. michaelae* Lourenço, 2013
MYR	*A. myriamae* Botero-Trujillo, 2007
NAI	*A. nairae* Lourenço, 2004
NOR	*A. norae* González-Sponga, 2006
OBS	*A. obscura* Lourenço & Motta, 2021
OCH	*A. ochoai* Botero-Trujillo & Flórez, 2011
OTA	*A. otavianoi* Lira *et al.*, 2017
PAL	*A. palmari* Botero-Trujillo & Noriega, 2011
PAO	*A. paoensis* González-Sponga, 2006
PAR	*A. paracotoensis* González-Sponga, 2006
PIE	*A. pierrekondre* Lourenço *et al.*, 2020
PLA	*A. plataensis* González-Sponga, 2006
PLT	*A. platnicki* Lourenço, 1993
POL	*A. polleti* Lourenço, 2016
PRI	*A. principalis* González-Sponga, 2006
PYD	*A. pydanieli* Lourenço, 1982
RIC	*A. riocaurensis* González-Sponga, 2006
RIM	*A. riomachensis* Rojas-Runjaic *et al.*, 2008
RIO	*A. riochicoi* González-Sponga, 2006
ROR	*A. roraima* Lourenço & Duhem, 2010
SAB	*A. sabineae* Lourenço, 2001
SAN	*A. sanchezi* González-Sponga, 2006
SEP	*A. sepulvedai* González-Sponga, 2006
SIN	*A. singularis* González-Sponga, 2006
SIP	*A. sipilili* Ythier *et al.*, 2020
SOL	*A. solimariae* Botero-Trujillo & Flórez, 2011
SUR	*A. surinamensis* Lourenço, 2012
TER	*A. terueli* Kovařík, 2006
TOL	*A. tolimana* Teruel & Garcia, 2007
TRE	*A. tresor* Ythier *et al.*, 2020
TUR	*A. turumbanensis* González-Sponga, 1980
VEN	*A. venezuelensis* González-Sponga, 1972
VOL	*A. volschenki* Botero-Trujillo, 2009
ZUL	*A. zuliana* González-Sponga, 2006



Ananteroides, Himalayotityobuthus, Lychasioides
Microananteris, Tityobuthus, Troglotityobuthus

AFE	*Ananteroides feae* Borelli, 1911
AIN	*Ananteroides inexpectatus* Lourenço, 2013
HAL	*Himalayotityobuthus alejandrae* Lourenço, 2003
HMA	*Himalayotityobuthus martensi* Lourenço, 1997
LAM	*Lychasioides amieti* Vachon, 1974
MAB	*Microananteris abounami* Lourenço & Chevalier, 2022
MIN	*Micronanteris inselberg* Lourenço, 2021
MMI	*Micronanteris minor* Lourenço, 2003
MSE	*Micronanteris serrulata* Lourenço, 2021
TAN	*Tityobuthus antsingy* Lourenço & Goodman, 2004
TBA	*Tityobuthus baroni* (Pocock, 1890)
TBE	*Tityobuthus betschi* Lourenço, Qi & Goodman, 2008
TCH	*Tityobuthus chelbergorum* Lourenço, Qi & Goodman, 2008
TDA	*Tityobuthus dastychi* Lourenço, 1997
TDR	*Tityobuthus darainensis* Lourenço & Goodman, 2022
TGI	*Tityobuthus griswoldi* Lourenço, 2000
TGU	*Tityobuthus guillaumeti* Lourenço, 1995
TIV	*Tityobuthus ivohibe* Lourenço & Goodman, 1999
TJU	*Tityobuthus judsoni* Lourenço, 1996
TLO	*Tityobuthus lokobe* Lourenço, Waeber & Wilme, 2016
TMA	*Tityobuthus manonae* Lourenço, 2000
TMC	*Tityobuthus mccarteri* Lourenço, Qi & Goodman, 2008
TMO	*Tityobuthus monodi* Lourenço, 2000
TMR	*Tityobuthus mariejeanneae* Lourenço, Waeber & Wilme, 2018
TOR	*Tityobuthus orangea* Lourenço, Waeber & Wilme, 2020
TPA	*Tityobuthus pallidus* Lourenço, 2004
TPE	*Tityobuthus petrae* Lourenço, 1996
TPO	*Tityobuthus pococki* Lourenço, 1995
TPR	*Tityobuthus parrilloi* Lourenço, 1996
TRA	*Tityobuthus rakotondravonyi* Lourenço & Goodman, 2003
TGR	*Troglotityobuthus gracilis* (Fage, 1946)

Fig. **13**. Maximum recorded altitudes (m a.s.l.) for all species of the family Ananteridae **stat**. **n**. Black acronyms refer to species from Latin America, blue from Africa, red from Asia.

Fig. **14**. Topographic map showing the approximate distribution of the Ananteridae genera.

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Fig. **15**. Pico da Neblina, Brazil, type locality of *A. lourencoi* **sp**. **n**.

Résumé

Ythier E., 2024. – Une nouvelle espèce de haute altitude du genre *Ananteris* Thorell, 1891 (Scorpiones: Ananteridae) du Pico da Neblina au Brésil. *Faunitaxys*, 12(19): 1 – 9.

Une nouvelle espèce appartenant au genre *Ananteris* Thorell, 1891 (famille Ananteridae Pocock, 1900, **stat**. **n**.) est décrite sur la base d'un spécimen mâle collecté au Pico da Neblina, Brésil. *Ananteris lourencoi* **sp**. **n**. a été collecté entre 2000-2300 m d'altitude, représentant à notre connaissance le record d'altitude pour le genre *Ananteris*. La description de cette nouvelle espèce apporte des informations supplémentaires quant au modèle de répartition biogéographique présenté par la plupart des espèces du genre *Ananteris*, hautement endémiques dans la plupart des formations naturelles d'Amérique du Sud. Ce nouveau taxon représente la 97ème espèce décrite parmi les espèces actuellement reconnues pour le genre *Ananteris* (la 31ème décrite pour le Brésil) et la 128ème espèce décrite pour la famille des Ananteridae **stat**. **n**., ici confirmée en tant que famille valide. La composition, la distribution et l'altitude des membres de cette famille sont également discutés.

Mots-clés. – Scorpions, Ananteridae, *Ananteris*, taxonomie, nouvelle espèce, description, morphologie, altitude, Brésil.

Faunitaxys

Volume 12, Numéro 19, Avril 2024

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Pico da Neblina, Brazil, type locality of *Ananteris lourencoi* **sp**. **n**.

Crédits :

Elise-Anne Leguin (MNHN) : Fig. 1 - 2.
Wilson R. **Lourenço** (MNHN) : Fig. 3 - 10.
Eric Ythier : Fig. 11 - 14.
Força Aérea do Brasil (Wikipedia): Fig. 15 & couverture.

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