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NOTA

New distributional data for the endemic Peruvian spider *Andethele huanca* Coyle, 1995, with notes on morphology and biogeography (Araneae: Ischnothelidae)

Nuevos datos de distribución de la araña peruana endémica *Andethele huanca* Coyle, 1995, con notas sobre morfología y biogeografía (Araneae: Ischnothelidae)

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Abstract

The first photographs of preserved material identifiable as *Andethele huanca* Coyle, 1995 are presented based on a specimen collected in 2013 and deposited at the Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia. Differences in the genitalia of paratypes from disjunct localities are discussed, which may represent separate species and require further investigation. A biogeographic map, including the new locality record herein, is presented of the species under its present composition.

Keywords: Taxonomy, morphology, museums, mygalomorph.

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Resumen

Se presentan las primeras fotografías de material preservado identificable como *Andethele huanca* Coyle, 1995, basadas en un espécimen recolectado en 2013 y depositado en el Instituto Zoológico de la Academia Rusa de Ciencias, San Petersburgo, Rusia. Se discuten las diferencias en la genitalia de los paratipos de localidades disjuntas, que podrían representar especies distintas y requerir mayor investigación. Se presenta un mapa biogeográfico de la especie, que incluye el nuevo registro de localidad, en su composición actual.

Palabras clave: Taxonomía, morfología, museos, migalomorfo.

INTRODUCTION

The genus *Andethele* Coyle, 1995 belongs to the family Ischnocolidae F. O. Pickard-Cambridge, 1897 and is endemic to the Peruvian Andes, it contains three species: *A. huanca* Coyle, 1995 (type species), *A. lucma* Coyle, 1995, and *A. tarma* Coyle, 1995 which are all known from both sexes (World Spider Catalog, 2025). We recently discovered a specimen identifiable as *A. huanca*, due to congruent morphology, in the collections of the Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia, collected by Nikita J. Kluge (Saint Petersburg State University), which has previously been unidentified and undocumented.

In this work, a morphological description, photographs, and an ecoregional analysis within the framework of Dinerstein et al. (2017) is presented for *A. huanca*, with discussion on the possibility this species may not presently be monophyletic, in addition to suggestions for research directions by future workers.

MATERIALS AND METHODS

The specimen was examined under a binocular microscope. Photographs were made using a Nikon SMZ25 stereomicroscope with a DS-L3 DS camera. Description style follows Sherwood et al. (2023). Abbreviations – Repository of material examined: ZISP = Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia. Structures: ALE = anterior lateral eyes, AME = anterior median eyes, PLE = posterior lateral eyes, PME = posterior median eyes. Other: leg. = legit. Leg formulae start with the longest leg to the shortest in order of decreasing size, e.g. 4,1,2,3. All measurements are in mm. The map was made using QGIS and the shapefile of Dinerstein *et al*. (2017). Authors' emphases in [ ]. This paper was preregistered in ZooBank: urn:lsid:zoobank.org:pub:07AC53B8-B1A6-4E1C-9212-8450C104CA9D.

TAXONOMY

Andethele huanca Coyle, 1995

Andethele huanca Coyle, 1995: 89, figs. 50, 241-262.

Material examined.— 1♀ (ZISP ARA_ARA_0001728), Huariaca [= 10.4434°S, 76.1873°W], Pasco, Peru, 27–30 August 2013, leg. N. J. Kluge.

Diagnosis.— See Coyle (1995).

Complimentary description of non-type female.— Total length including chelicerae: 11.7. Carapace: length 5.1, width 3.6. Caput: slightly raised. Ocular tubercle: raised, length 0.5, width 0.8. Eyes: AME > ALE, ALE > PLE, PLE > PME, anterior eye row slightly procurved, posterior row recurved (Fig. 1G). Fovea: deep recurved. Chelicera: length 1.1, width 0.8. Abdomen: length 6.7, width 4.2. Maxilla with 80–90 cuspules covering approximately 40% of the proximal edge. Labium: length 0.2, width 0.7, lacking cuspules. Labio-sternal mounds: joined. Sternum: length 2.4, width 2.1, with three pairs of sigilla (Fig. 1E). Pseudoscopula: tarsi I–IV and metatarsi I–IV with very poorly developed pseudoscopulae. Lengths of legs and palpal segments: see table 1, legs 4,1,2,3. Spination: patella I d2, II d2, III d5, IV d3, tibia I d1, v3, p2, II d2, v3, p1 III d1, v4, p3, r1, IV d1, v5, p3, r2, palp v2, metatarsus I v5, p2, II d1, v3, p2 III d7, v6, p1, r1, IV d6, v9, p2, r3 PLS with three segments, basal 1.2, median 1.1, digitiform apical 2.5, rigid. PMS with one segment. Spermathecae: with two elongate receptacles, longer than 2 times the width of the lobes, each receptacle ending in a single rounded lobe with minimal neck constriction (Fig. 1H). Colour (in alcohol): legs, chelicerae, coxae, labium, and carapace light brown, sternum dark brown with black mottling; abdomen grey-brown with beige chevrons dorsally, ventrally mottled grey-brown and beige; spinnerets grey-brown with beige annulations (Figs. 1A–F).

Distribution.— Peru, see Remarks.

Remarks.— The specimen deposited in ZISP was found to have a damaged ventral abdomen in the region of the genital plate and first pair of book lungs. Only the left side of the genital plate was intact and the right side was completely missing, the left side was, however, able to be dissected and the receptacles were undamaged. Therefore, our photograph of the spermathecae shows only its left side, the specimen of course originally having a total of four receptacles. Coyle (1995) typically illustrated the right-hand receptacles of the spermathecae. The female examined fits well with the spermathecal variation within other specimens previously reported by Coyle (1995) and is only 19km from its nearest previous record, which is of one female collected “12 mi[les] S[outh of] Huariaca” (Coyle, 1995: 91). Furthermore, it agrees with all somatic characters given by that author, including abdominal colouration and pattern.

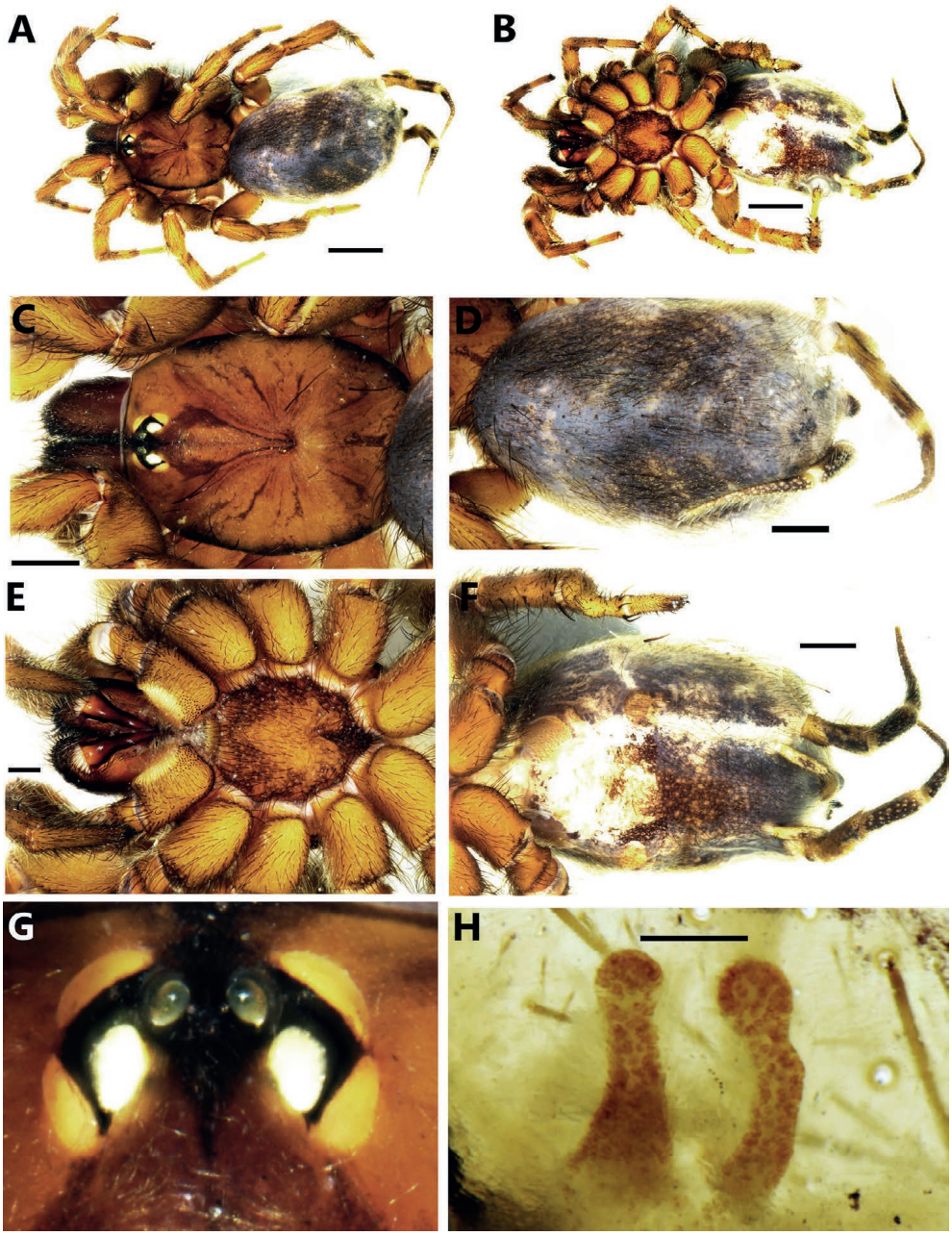

Figure 1. *Andethele huanca* Coyle, 1995 non-type female (ZISP ARA_ARA_0001728). A) Habitus, dorsal view. B) Habitus, ventral view. C) Carapace, dorsal view. D) Abdomen, dorsal view. E) Labium, maxillae, and sternum, ventral view. F) Abdomen, ventral view. G) Ocular tubercle, dorsal view. H) Close-up of left-hand receptacles of spermathecae, dorsal view. Scale bars: A–B = 2 mm; C–D = 1 mm; E–F = 0.5 mm; H = 0.1 mm.

Coyle (1995) noted a wide spectrum of spermathecal variation within females of *A. huanca*. One population from the Cordillera Blanca mountain range has the inner receptacle of the [only right side illustrated] spermathecae with two kinks immediately before the lobe of the receptacle. The precise locality is quite broad, "Cordillera Blanca, above 10,000 ft elev.," (Coyle, 1995: 90) and is therefore represented as a question mark in our Fig. 2. Coyle (1995: 90) recognised [as intraspecific variation] that "Females

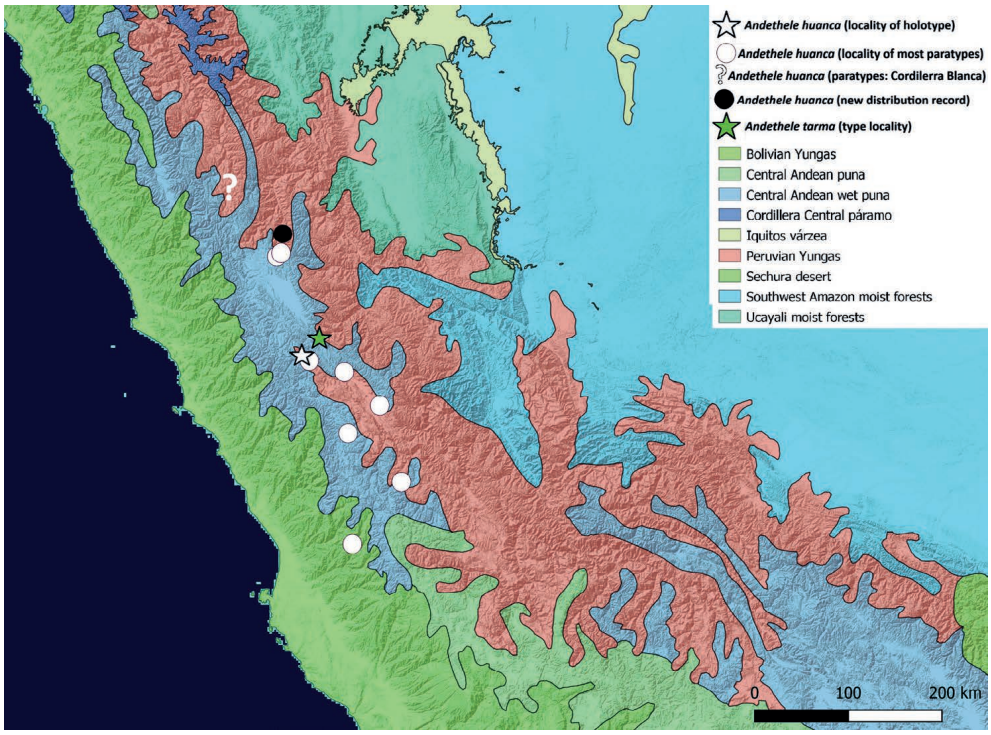

Figure 2. Distribution of *Andethele huanca* Coyle, 1995 in Peru in its current composition, ecoregionalisation overlay derived from Dinerstein *et al*. (2017). For completeness, the type locality of *Andethele tarma* Coyle, 1995, which is a distinct species, is also shown to demonstrate short distances of speciation already discovered within this genus. The question mark symbol for the Cordilerra Blanca record of Coyle (1995) is approximate, based on the placement of the corresponding circle symbol on the map in Coyle (1995: 88, map 3).

from the Cordillera Blanca tend to have more sinuous spermathecae …". Nonetheless, this population is disjunct from the population(s) from the Cordillera Huaytapallana further south, which consist of a wider variety of samples – including the holotype male – where all known female specimens lack the pronounced receptacle kinks. The ZISP specimen illustrated here presents the absence of receptacle kinking in the observable [left] side of the spermathecae (Fig. 1H). *Andethele huanca* also occurs in a number of ecoregions (Fig. 2). Given these biogeographical differences, but at the same time noting that males are not yet known from all localities and spermathecal morphology seems uninformative, which prevents us from making any formal decisions herein, it is possible the population in the Cordillera Blanca are not conspecific with the holotype.

Indeed, large biogeographical distances need not be required for apparent speciation in *Andethele*. Coyle (1995) described *Andethele tarma* Coyle, 1995 from a locality only 48km from (and in a congruent ecoregion with) some type specimens of *A. huanca* but [correctly] deemed this population to be a separate species. Therefore, some of the localities within the 'southern' population could also plausibly be different species to the name-bearing type. Future workers should examine all of the paratype specimens not

Table 1. *Andethele huanca* Coyle, 1995 non-type female (ZISP ARA_ARA_0001728), length of legs and palp.

Part	I	II	III	IV	Palp
Femur	2.7	2.2	2.5	3.3	2.0
Patella	2.0	1.6	1.6	1.9	1.2
Tibia	2.4	1.7	1.5	2.5	1.5
Metatarsus	2.0	1.7	1.5	3.0	–
Tarsus	1.2	1.2	1.2	1.3	1.4
Total	**10.3**	**8.4**	**8.3**	**12**	**6.1**

from Santa Rosa de Sacco and, more importantly, collect males from all localities where they are presently unknown to re-evaluate their taxonomical status.

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