

Hapalopus aymara a new species of tarantula from Bolivia (Araneae, Theraphosidae, Theraphosinae)

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ABSTRACT. A new species of *Hapalopus* Ausserer, 1875 (Araneae, Theraphosidae, Theraphosinae) from Bolivia is described and illustrated, based in males and females.

KEYWORDS. Tarantulas, Taxonomy, Neotropical.

RESUMO. *Hapalopus aymara* nova espécie de caranguejeira da Bolívia (Araneae, Theraphosidae, Theraphosinae). Uma nova espécie de *Hapalopus* Ausserer, 1875 (Araneae, Theraphosidae, Theraphosinae) da Bolívia é descrita e ilustrada, baseada em machos e fêmeas.

PALAVRAS-CHAVE. Caranguejeiras, Taxonomia, Neotropical.

The Theraphosinae are the most speciose subfamily of theraphosid spiders exclusively distributed in the Neotropical Region. They are characterized by the presence of an extended subtegulum, and keels in male palpal organ and the presence of urticating hairs of types I and/or III and/or IV (COOKE *et al.*, 1972) on the dorsal surface of the abdomen (RAVEN, 1985; PÉREZ-MILES *et al.*, 1996). More than 400 species were described in the subfamily but a high number of unknown species are expected to occur in Araneae as a whole (CODDINGTON & LEVI, 1991) and also in this taxa. Although the difficulties for systematic studies (SCHIAPELLI & GERSCHMAN, 1979; VALERIO, 1980; MINCH, 1989; RAVEN, 1990; BERTANI, 2000) due mainly to their morphological homogeneity, recent scientific contributions improve the tools for species recognition and consequently for the discovery of new species.

The genus *Hapalopus* Ausserer, 1875 includes eight species (PLATNICK, 2007) described from Brazil, Colombia, French Guiana, Mexico and Venezuela, the majority of which described in the second half of twenty century. FUKUSHIMA *et al.* (2005) transferred *Cyriocosmus butantan* Pérez-Miles, 1998 and *Metriopelma nigriventris* (Mello-Leitão, 1939) to *Hapalopus* and indicated the following synapomorphies to this genus: the ring-shaped keel on palpal organ, the presence of tibial apophysis with convergent branches and the presence of a spermathecal receptaculum having a membranous base. *Hapalopus* is also characterized by the following character combination: the apical region of the bulb subconical, bulbal keels unequal, digitiform apophysis of bulb absent, male palpal tibiae with retrolateral process, flexion of metatarsus I between tibial apophysis, femur IV without retrolateral scopula, absence of stridulatory setae and numerous labial cuspules (PÉREZ-MILES *et al.*, 1996). Studying a sample collected in Beni, Bolivia, we found some individuals that present these characteristics but did not fit with any of the known species. In this study these specimens are described as *Hapalopus aymara* new species.

METHODS

Abbreviations: AME, anterior median eyes; ALE, anterior lateral eyes; PME, posterior median eyes; PLE, posterior lateral eyes; OQ, ocular quadrangle (including lateral eyes); d, dorsal; p, prolateral; r, retrolateral; v, ventral; FCE-MY, Arachnological Collection of Facultad de Ciencias, Montevideo, Uruguay.

All measurements are expressed in millimetres. Coordinates into brackets are approximate (not taken by Global Positioning System). Numbers between parenthesis in the description, represent the mean and standard deviation of type series.

Hapalopus aymara sp. nov.

(Figs. 1-9)

Types. Holotype male (FCE-MY 734), BOLIVIA, Beni: Rurrenabaque (16°22'56''S, 67°30'85''W) without date, Paul Stevenz leg.; paratypes: 2 males (FCE-MY 735 and FCE-MY 0736) from same locality and one female (FCE-MY 737) born in laboratory in Germany, mother collected in the same locality by Paul Stevenz.

Etymology. Noun in apposition that refers to the name of the language and culture from an important region of Bolivia and Peru, the word means old language.

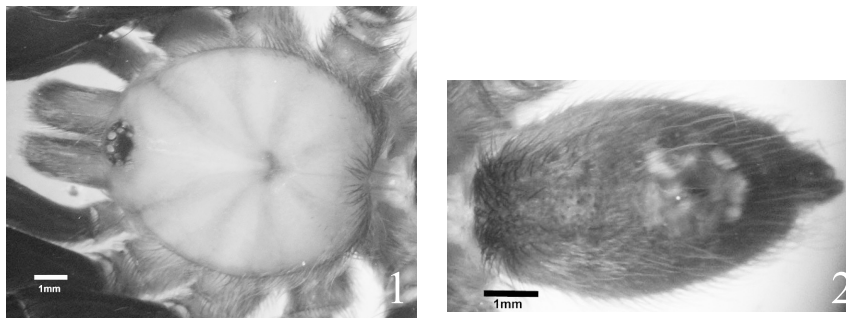
Diagnosis. Differs from *Hapalopus formosus* Ausserer, 1875, by the palpal bulb morphology by the absence of prolateral superior keel and 25% narrower ring-shaped keel; from *H. aldanus* West, 2000, by the absence of basoventral cluster of short inward curled megaspines on metatarsus I, by the 40% narrower keel on palpal bulb, and femur III not swollen. Differs from *H. tripepii* Dresco, 1984 by the absence of a dorsal process in the cheliceral basal segment. From *H. butantan* (Pérez-Miles, 1998) by the 75% shorter embolus and the absence of abdominal stripped pattern. From *H. nigriventris* (Mello-Leitão, 1939), *H. guianensis* Caporiacco, 1954 and *H.*

triseriatus Caporiacco, 1955 by the absence of abdominal spotted or striped pattern. From *H. nondescriptus* Mello-Leitão, 1926 by the different palpal organ morphology in which embolus is twice longer in this species.

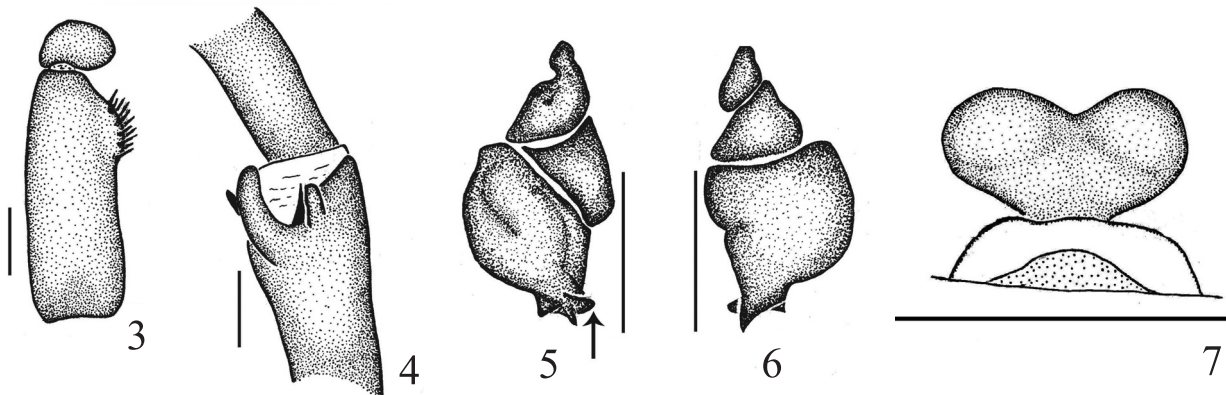
Male (Figs. 1-6). Total length, not including chelicerae or spinnerets, 17.3 (15.95±1.58). Carapace length, 8.50 (8.20±0.36), width 7.20 (6.80±0.40). Anterior eye row straight, posterior eye row slightly recurved. Eye sizes and interdistances: AME 0.26 (0.25±0.01), ALE 0.44 (0.41±0.07), PME 0.16 (0.17±0.02), PLE 0.34 (0.36±0.02), AME-AME 0.16 (0.14±0.02), AME-ALE 0.06 (0.03±0.02), PME-PME 0.60 (0.57±0.03), PME-PLP 0.06 (0.04±0.02), AME-PLP 0.11 (0.08±0.04), OQ length 0.73 (0.56±0.15), width 1.33 (1.34±0.05), clypeus 0.15 (0.17±0.02) high. Fovea transverse slightly procurved, width 0.50 (0.80±0.26). Labium length 1.50 (1.53±0.06), width 1.0 (0.97±0.15) with 53 (47±6) cuspules, maxillae with 140 (139±29) cuspules. Sternum length 3.8 (3.43±0.47). Chelicerae with 10 teeth on the promargin, small teeth on retromargin absent. Tarsi I-IV densely scopulated, scopula I undivided, II-IV divided by a narrow stripe of setae. Metatarsi I-IV scopulated on

the apical quarter. Palpal tibia with a subapical spinose process on the retrolateral surface (Fig. 3). Tibia I with two distal proventral apophysis (Fig. 4). Flexion of metatarsus between tibial apophysis. Palpal organ piriform with a ring-shaped keel (Figs. 5, 6). Length of leg and palpal segments, in table I. Spination femora I-IV and palp 0. Patellae I-IV and palp 0. Tibia I 4v2p; II 5v3p; III 6v3p2r0d; IV 7v2p4r0d; palp 2v2p0r0d. Metatarsi I 2v1p1r; II 1v2p4r; III 3v5p1r1d; IV 2v5p3r0d. Tarsi I-IV and palp 0. Color: carapace, chelicerae coxae and trochanters light brown; abdomen and rest of palps and legs dark brown. Type III urticating hair present.

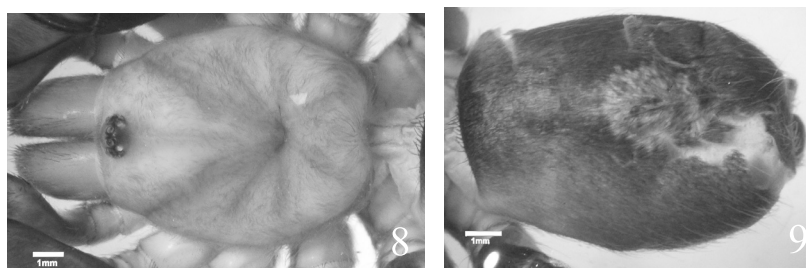
Female (Figs. 7-9). Total length, excluding chelicerae and spinnerets, 21.30. Carapace length 8.80. Width 7.10. Anterior eye row straight, posterior slightly recurved. Eyes sizes and interdistances: AME 0.20, ALE 0.35, PME 0.19, PLE 0.29, AME-AME 0.14, AME-ALE 0.09, PME-PME 0.73, PME-PLP 0.06, ALE-PLP 0.18, OQ length 0.69, width 1.41. Clypeus 0.1. Fovea transverse, width 1.1. Labium length 1.90, width 1.35, with 49 cuspules, maxillae with 170 cuspules. Sternum length 3.85. Chelicerae with



Figs. 1, 2. *Hapalopus aymara* sp. nov., male holotype, dorsal view: 1, carapace; 2, abdomen. Scales, 1 mm.



Figs. 3-7. *Hapalopus aymara* sp. nov.: 3, right palpal tibia showing the spinose retrolateral process, dorsal view; 4, right leg I with proventral tibial apophyses; 5, palpal organ, prolateral view (arrow shows the ring-shaped keel); 6, palpal organ, retrolateral view; 7, spermathecae, ventral view. Scales, 1 mm.



Figs. 8, 9. *Hapalopus aymara* sp. nov., female paratype, dorsal view: 8, carapace; 9, abdomen. Scale, 1 mm.

Table I. *Hapalopus aymara* sp. nov., male holotype, length of leg and palpal segments. Numbers in brackets represent the mean and standard deviation of male holotype and paratypes.

	I	II	III	IV	Palp
Femur	7.5 (6.80±0.58)	6.5 (6.20±0.36)	6.0 (5.70±0.51)	7.5 (7.45±0.09)	4.5 (4.16±0.28)
Patella	4.0 (3.72±0.26)	3.5 (3.33±0.29)	3.0 (2.80±0.20)	3.5 (3.40±0.17)	2.6 (2.13±0.42)
Tibia	5.8 (5.40±0.46)	4.5 (4.13±0.32)	4.0 (3.80±0.20)	6.5 (5.90±0.66)	3.8 (3.53±0.15)
Metatarsus	5.0 (4.95±0.58)	5.0 (4.80±0.53)	5.8 (5.45±0.38)	8.0 (7.90±0.17)	
Tarsus	3.7 (3.25±0.80)	3.7 (3.08±0.68)	3.7 (3.15±0.74)	4.5 (4.13±0.47)	1.3 (1.47±0.15)

Table II. *Hapalopus aymara* sp. nov., female paratype, length of leg and palpal segments.

	I	II	III	IV	Palp
Femur	6.3	5.0	5.0	7.0	4.0
Patella	3.5	3.0	2.5	3.0	2.8
Tibia	4.0	3.5	3.0	5.0	2.7
Metatarsus	3.0	3.0	4.5	7.0	
Tarsus	2.8	2.8	3.0	3.7	3.0

10 teeth on the promargin, small teeth on retromargin absent. Tarsi I-IV densely scopulated, scopula I-IV divided. Metatarsi I and II scopulate on their apical third, III and IV scopulated on their apical quarter. Length of leg and palpal segments, in table II. Spination: femora I. 0v1p0r0d; II 0v1p0r0d; III-IV 0 and palp 0v1p0r0d. Patellae I-II 0; III 0v2p0r0d and IV 0v1p0r0d and palp 0. Tibiae I 0; II 4v0p0r0; III 4v3p2r0d; IV 4v1p2r0d; palp 4v0p0r0d. Metatarsi I 2v0p0r0d; II 4v0p0r0p; III 4v5p2r3d; IV 4v8p2r2d. Tarsi I-IV and palp 0. Spermathecae in a single heart-shaped receptaculum and a membranose base (Fig. 7). Color carapace, chelicerae coxae and trochanters light brown; abdomen and rest of palps and legs dark brown. Type III urticating hairs present.

Distribution. Only know from the type locality.

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