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DESCRIPTION OF A NEW SPECIES OF SCORPION BELONGING TO THE GENUS *HIMALAYOTITYOBUTHUS* LOURENÇO (SCORPIONES, BUTHIDAE)

Wilson R. Lourenço

Abstract

A new species of buthid scorpion belonging to the genus *Himalayotityobuthus* Lourenço is described on the basis of two specimens collected in northern India. Morphological structures of the new species are illustrated, based mainly on their study using scanning electron microscopy.

Key words: Scorpiones, Buthidae, *Himalayotityobuthus*, sp. n., North of India.
Taxonomy: *Himalayotityobuthus alejandrae* sp. n.

Descripción de una nueva especie de escorpión del género *Himalayotityobuthus* Lourenço (Scorpiones, Buthidae)

Resumen

Una nueva especie de escorpión bútido perteneciente al género *Himalayotityobuthus* Lourenço es descrita en base a dos especímenes colectados en el norte de la India. Las estructuras morfológicas de la nueva especie son ilustradas, principalmente, a través de su estudio mediante el uso de microscopio electrónico de barrido.

Palabras clave: Scorpiones, Buthidae, *Himalayotityobuthus*, sp. n., Norte de la India.
Taxonomía: *Himalayotityobuthus alejandrae* sp. n.

Introduction

The scorpion fauna both of the North of India and of Nepal remains poorly studied. During the last few years, only isolated descriptions have been published. In a recent study (Lourenço, 1997), of several scorpions, collected by Prof. J. Martens of the Johannes Gutenberg-Universität Mainz during the "Fauna des Nepal-Himalaya" expeditions, lead me to describe a peculiar new genus and species of the family Buthidae, *Himalayotityobuthus martensi* Lourenço. The description of this new genus and species was based on a male specimen collected in Kashmir, India, and a female collected in Tribani Ghat, Nepal. The discovery of this new genus and species of scorpion was of considerable biogeographic significance since it provided further evidence about the possible affinities between the Madagascan scorpion fauna and that present in Oriental regions (Lourenço, 1996a,b).

The genus *Himalayotityobuthus* has remained monotypic until now. However, the study of two female specimens collected in the North of India, necessitates, the description of a second species. This new species provides further evidence in support of the validity of the genus.

Taxonomic treatment

***Himalayotityobuthus alejandrae* sp. n.**
Figs. 1-13.

DIAGNOSIS: The new species can be distinguished from the only other species of the genus, *Himalayotityobuthus martensi* Lourenço by the following characters : (i) much smaller size, see Table I; (ii) darker patterns of pigmentation; (iii) a more spinoid subaculear tooth; (iv) stronger carinae and granulation on carapace and tergites.

TYPE MATERIAL: 1 female holotype and 1 female paratype. India, North of Saharanpur, 27/VI/1972 (C. Naumann leg.). Deposited in the Muséum National d'Histoire Naturelle, Paris.

ETYMOLOGY: Patronym in honor of Dr. Alejandra Ceballos of the University of Córdoba, Argentina.

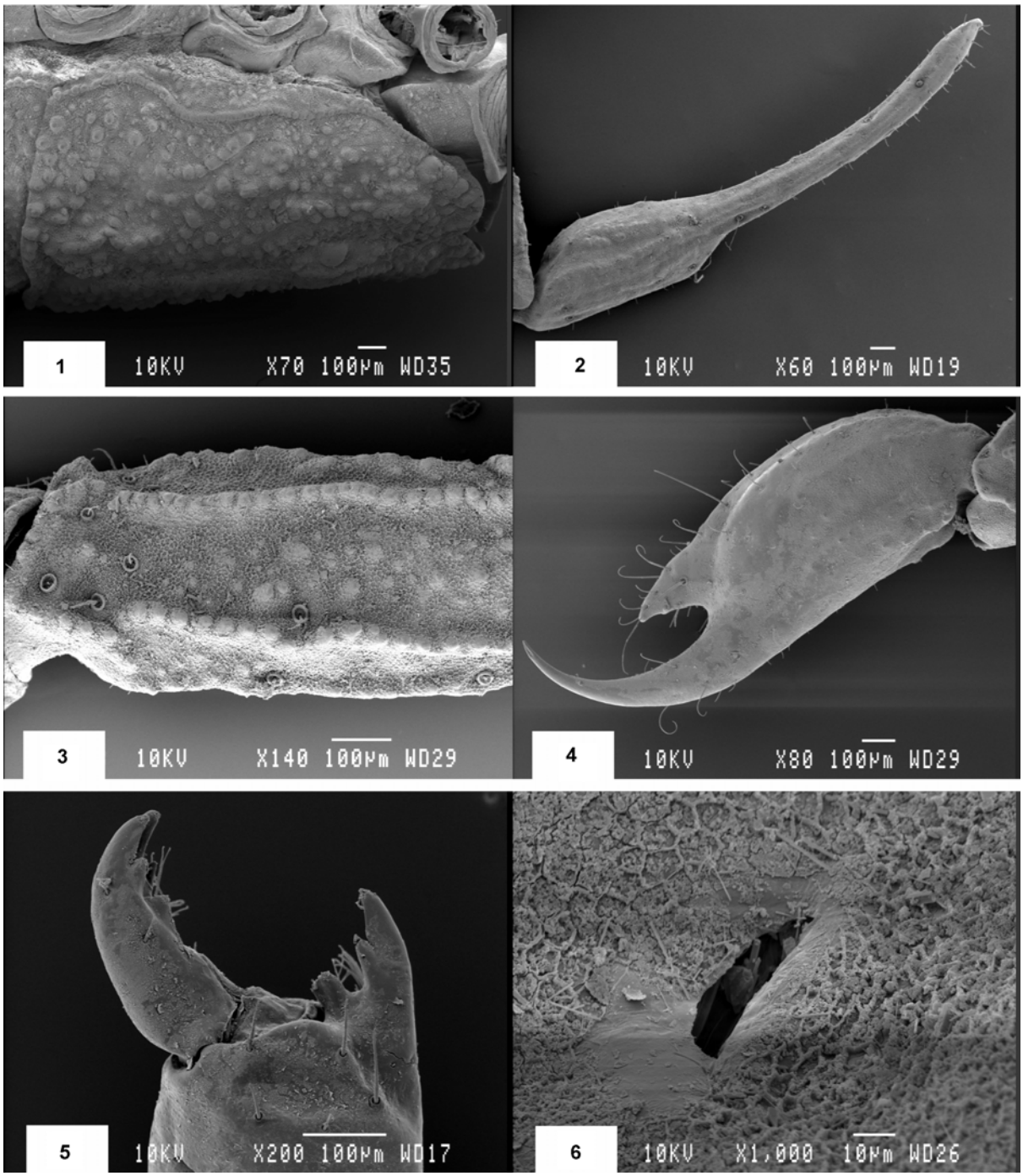


Fig. 1-6. *Himalayotityobuthus alejandrae* sp. n., female paratype. **1:** Carapace, lateral aspect, showing granulation. **2:** Chela and fixed finger of pedipalp, dorso-external aspect, showing trichobothria. **3:** Femur, dorsal aspect, showing trichobothria. **4:** Telson, lateral aspect. **5:** Chelicera, dorsal aspect. **6:** Spiracle on sternite IV.

DESCRIPTION BASED ON HOLOTYPE AND PARATYPE

Measurement in Table I.

Coloration. Basically yellowish, symmetrically marbled with dark reddish brown producing an overall spotted appearence. Prosoma: carapace yellowish, heavily spotted; eyes surrounded with black pigment. Mesosoma: yellowish with brown confluent spots on the distal regions of the tergites. Metasoma: segments I to V yellowish, with dark spots on the distal regions of all aspects. Vesicle yellowish with variegated spots. Venter yellowish with some diffuse spots on sternites V to VII. Chelicerae yellowish with dark variegated pigmentation; fingers yellowish with some dark pigmentation. Pedipalps: yellowish with several spots on femur and patella; chela hand yellowish; fingers darker and brownish. Legs yellowish with several diffuse spots.

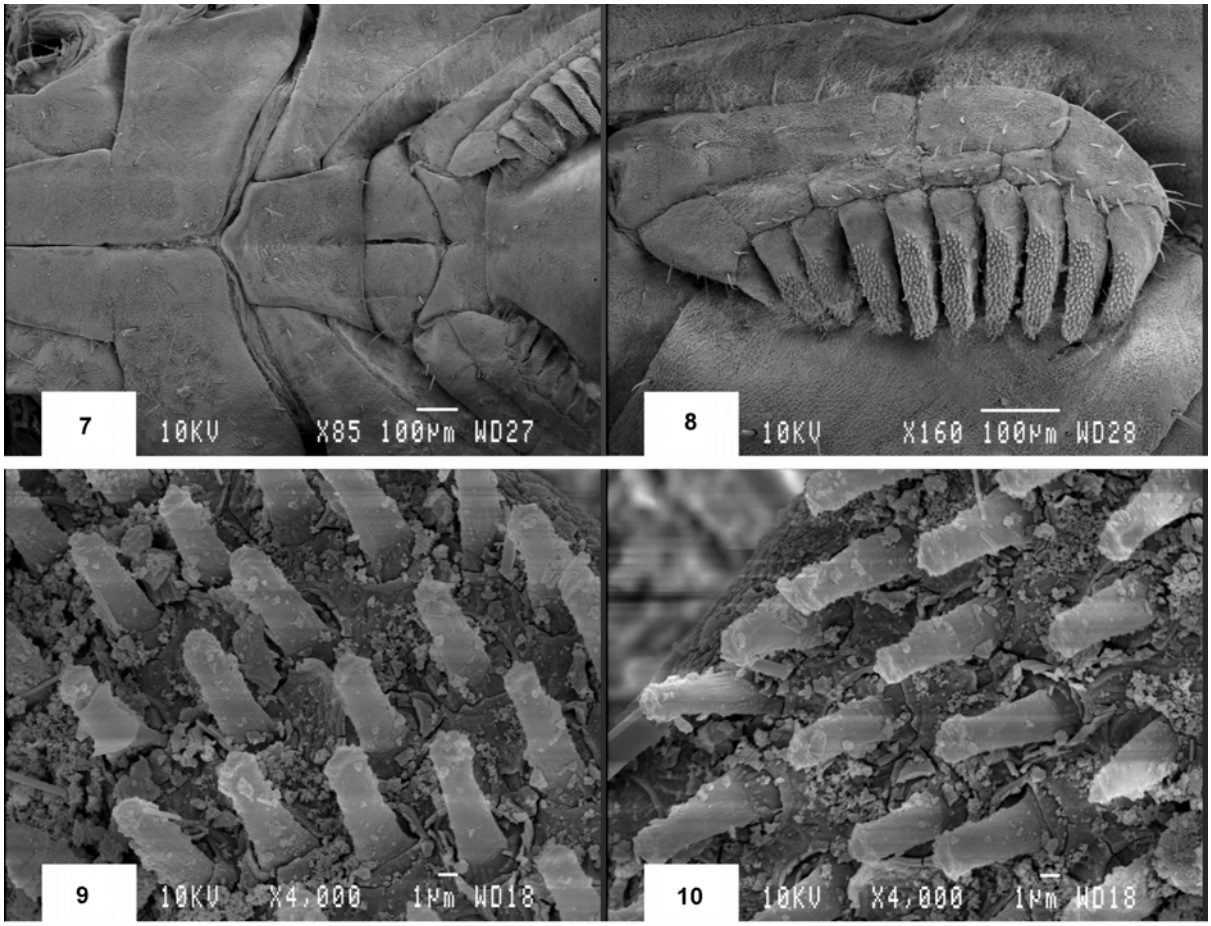


Fig. 7-10. *Himalayotityobuthus alejandrae* sp. n., female paratype. **7:** Ventral aspect of prosoma and mesosoma, showing coxapophysis, sternum, genital operculum and pectines. **8:** Left pecten, showing the peg sensilla zones over teeth. **9-10:** Microstructure of peg sensilla on teeth, viewed from two different angles.

Morphology. Carapace moderately granular; anterior margin with a moderate to strong median concavity. Anterior median superciliary and posterior median carinae moderate. All furrows moderate. Median ocular tubercle distinctly anterior to the center; median eyes separated by one ocular diameter. Three pairs of lateral eyes. Sternum subpentagonal. Mesosoma: tergites strongly granular. Median carinae strong in all tergites. Tergite VII pentacarinate. Venter: genital operculum divided longitudinally. Pectines: pectinal tooth count 10-10; basal middle lamellae of the pectines not dilated; fulcra absent. Sternites smooth with small elongate spiracles; VII with four vestigial carinae. Metasoma: segments I to III with 10 carinae, crenulate. Segment IV with 8 carinae crenulate. Segment V with 5 carinae. Telson with one ventral carina moderately crenulate, and with two pairs of vestigial lateral carinae; aculeus short and moderately curved; subaculear tooth very strong and spinoid. Cheliceral dentition characteristic of the family Buthidae (Vachon, 1963); movable finger with two vestigial basal teeth; ventral aspect of both finger and manus with long, moderately dense setae. Pedipalps: femur pentacarinate; patella with 7 carinae; chela with vestigial carinae; internal aspect of patella with several small spinoid granules; all aspects moderately granular. Fixed and movable fingers with 7 semi-oblique rows of granules; internal and external accessory granules present but very discrete; distal end of movable finger with 3 accessory granules. Trichobothriotaxy; orthobothriotaxy A-β (Vachon, 1974, 1975). Legs: tarsus with fine very numerous median setae ventrally. Pedal spurs strong in all legs; tarsal spurs strong and present on legs III-IV.

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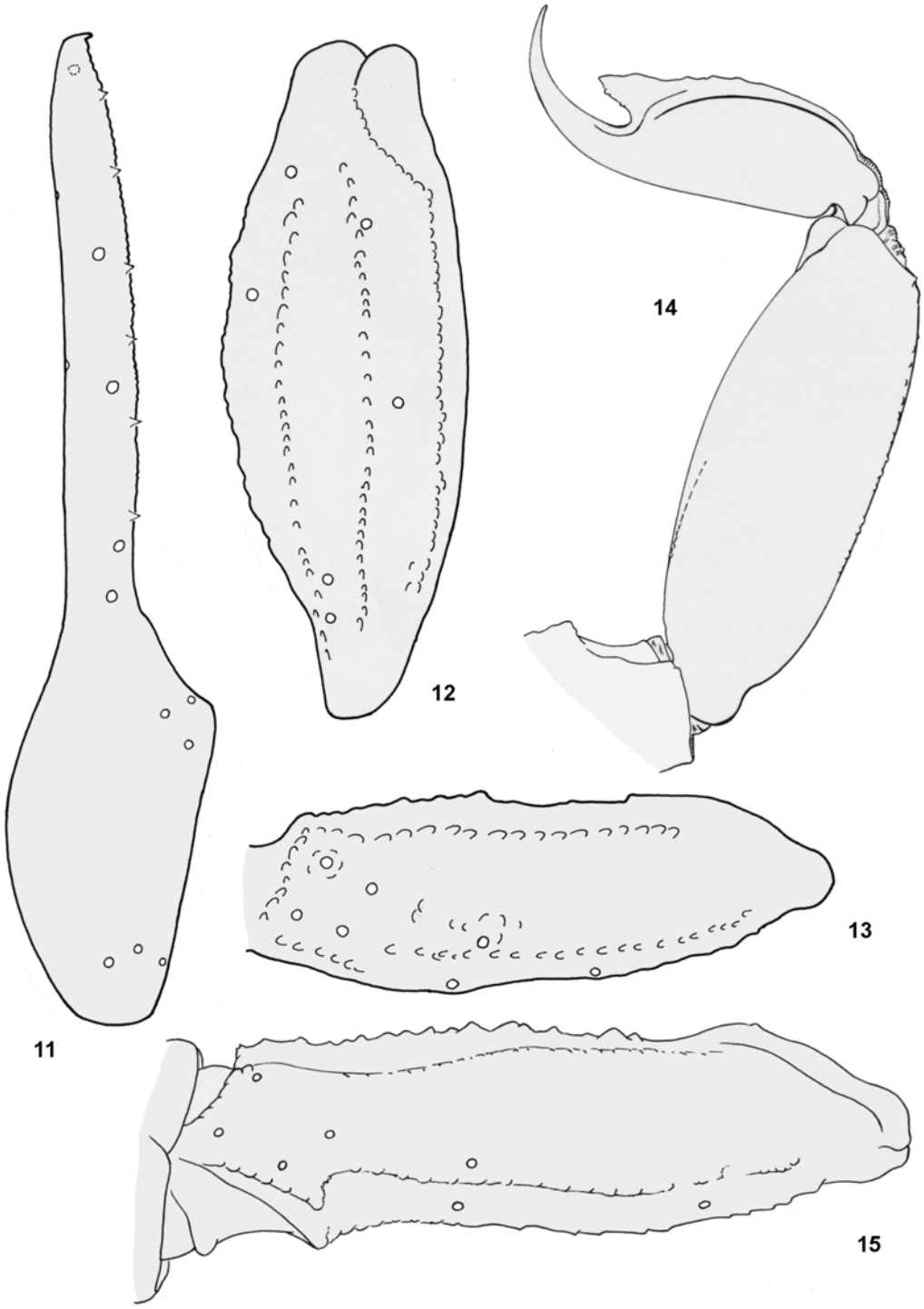


Fig. 11-13. *Himalayotityobuthus alejandrae* sp. n., female holotype. Trichobothrial pattern. **11:** Chela, dorso-external aspects. **12:** Patella, dorsal aspect. **13:** Femur dorsal aspect.
Fig. 14-15. *Himalayotityobuthus martensi*, male holotype. **14:** Metasomal segment V and telson, lateral aspect. **15:** Femur, dorsal aspect.

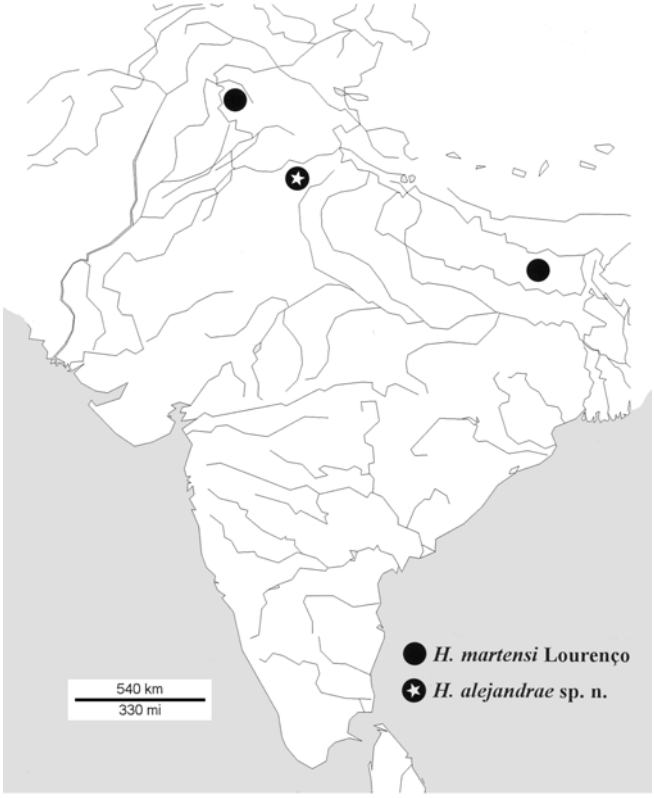


Fig. 16. Map showing the known distribution of *Himalayotityobuthus* species in India and Nepal.

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Table I

Morphometric values (in mm) of the female 'allotype' of *Himalayotityobuthus martensi* and of the female holotype of *Himalayotityobuthus alejandrae* sp. n.

	Hymanayotityobuthus	
	martensi	***alejandrae* sp. n.**
Total length	23.4	13.8
Carapace:		
length	3.1	2.0
anterior width	2.1	1.2
posterior width	3.4	1.8
Metasomal segment I:		
length	1.6	1.2
width	1.8	1.0
Metasomal segment V:		
length	3.5	2.0
width	1.6	0.7
depth	1.5	0.8
Vesicle:		
width	0.9	0.5
depth	1.0	0.6
Pedipalp:		
Femur length	2.5	1.5
Femur width	0.9	0.5
Patella length	3.2	1.9
Patella width	1.1	0.7
Chela length	4.6	2.8
Chela width	0.9	0.4
Chela depth	0.8	0.5
Movable finger:		
length	3.0	1.9