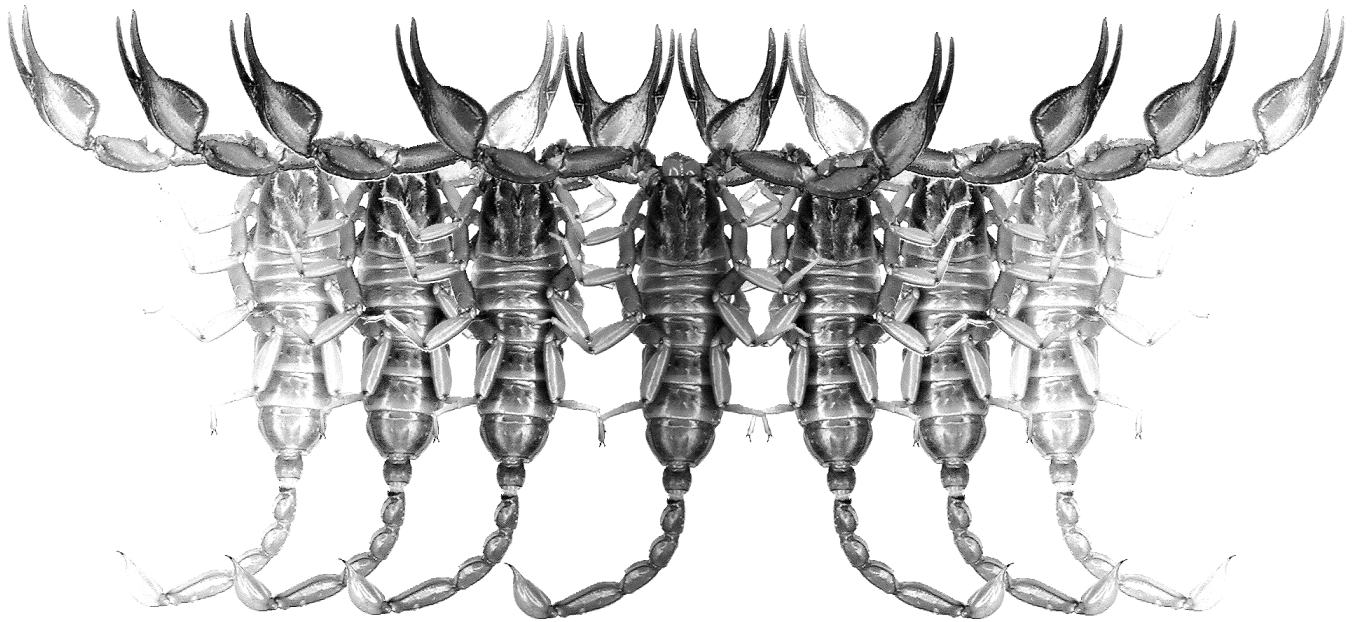


Euscorpius

Occasional Publications in Scorpiology



**One More New Species of the Genus *Orthochirus*
Karsch, 1891 from Africa (Scorpiones: Buthidae)**

Wilson R. Lourenço & Elise-Anne Leguin

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One more new species of the genus *Orthochirus* Karsch, 1891 from Africa (Scorpiones: Buthidae)

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Summary

Following the recent considerations proposed on the African species of the genus *Orthochirus* Karsch, 1891, one new species is described from the south of Morocco. The total number of African species is now raised to six.

Introduction

In a recent publication (Lourenço & Leguin, 2011), new considerations were proposed regarding the African species of the genus *Orthochirus* Karsch, 1891. The taxonomic status of *Orthochirus aristidis* (Simon, 1882) and *Orthochirus innesi* Simon, 1910 was finally clarified, and three new species were described from North Africa (Algeria, Morocco and Mauritania). The total number of African species was confirmed to be five.

In our previous paper (Lourenço & Leguin, 2011), we referred to a specimen recorded by Vachon (1954) from Aouinet Torkoz and suggested it as a distinct new species. At present, this species is described as new, based on material collected in the region of Aouinet Torkoz by the senior author. New studies on the southern Saharan populations of *Orthochirus* will certainly reveal other species yet to be described.

A case of *nomen nudum*, *lapsus calami* was also noted on page 14 of our recent paper (Lourenço & Leguin, 2011), precisely in the key to the species. The non-existent name "*O. hoggarensis* sp. n." was misprinted there instead of *O. tassili* sp. n. This error is amended here.

Taxonomy

Family Buthidae C.L. Koch, 1837

Genus *Orthochirus* Karsch, 1891

Orthochirus maroccanus Lourenço et Leguin, sp. n.
(Figs. 1–13; Tab. 1)

Type material: Morocco, trail between Assa and Aouinet Torkoz, 45 km past Assa towards Aouinet Torkoz, 12 April 2004 (W. R. Lourenço), female holotype and

female paratype. Deposited in the Muséum national d'Histoire naturelle, Paris.

Etymology: specific name refers to the Morocco, the country in which the new species was collected.

Diagnosis

Moderate sized scorpions, reaching a total length of 27 to 29 mm for females. General coloration brownish-yellow to dark brown. Anterior margin of carapace almost straight in females. Ventral aspect of metasomal segment V without granulations posteriorly. Fixed and movable fingers with 8-8 rows of denticles; accessory denticles present. Pectines with 15 to 16 teeth in females. *Trichobothriotaxy*: A-β (Beta) neobothriotaxy 'minorante' in female.

Relationships: *Orthochirus maroccanus* sp. n. can be distinguished from the other species of *Orthochirus*, and in particular from *Orthochirus atarensis* by the following characters:

(i) bigger overall size (see Table I), (ii) anterior margin of carapace almost straight in female, (iii) absence of trichobothrium d_2 of femur in female, (iv) paler coloration pattern, (v) carapace, tergites and metasomal tegument more intensely granular.

Description based on female holotype and paratype. Measurements in Table 1.

Coloration. Basically brownish-yellow. Prosoma: carapace dark brown; anterior margin slightly yellowish-brown; median and lateral eyes surrounded by black pigment. Mesosoma: brownish-yellow; carinae and granulations dark brown. Metasomal segments dark brown; telson reddish-brown; aculeus reddish with a darker tip. Metasomal carinae marked with blackish.



Figures 1–2: *Orthochirus maroccanus*, female holotype, dorsal and ventral aspects.

Venter yellowish-brown; pectines pale yellow. Chelicerae yellowish, with dark variegated spots; fingers brownish. Pedipalps, femur and patella brownish to brownish-yellow; chela yellowish. Legs yellowish with diffused dark brown spots.

Morphology. Carapace moderately granular; anterior margin almost straight in female. Carinae and furrows moderate to weak. Median ocular tubercle slightly anterior to the centre of the carapace; median eyes separated by more than one ocular diameter. Three pairs of lateral eyes. Sternum subtriangular to subpentagonal, wider than long. Mesosoma: tergites with moderately marked granulations; median carina moderate in all tergites. Tergite VII pentacarinata with moderate carinae. Venter: genital operculum elongated, divided longitudinally into two suboval plates. Pectines: pectinal tooth count 15-16 (holotype), 15-15 (paratype); basal

middle lamellae of each pecten not dilated. Sternites almost smooth with small slit-like spiracles; VII with four carinae moderate. Metasoma: segments rounded, with carinae moderately marked; granulations moderately marked; segments I to III with ten carinae; segments IV and V with punctuations; ventral aspect of segment V without granulations in the distal region. Intercarinal spaces with some granulations dorsally; moderately to strongly granular laterally and ventrally. Telson smooth with a few punctuations; aculeus longer than the vesicle and moderately curved; subaculear tooth absent. Cheliceral dentition characteristic of the family Buthidae (Vachon, 1963); movable finger with basal teeth reduced but distinct; ventral aspect of both finger and manus with thin setae. Pedipalps: femur with five strong carinae, granular; patella with 6–7 moderately marked carinae; chela without carinae, smooth. Fixed and movable fingers with 8-8 rows of denticles. Tri-

	<i>O. atarensis</i>	<i>O. maroccanus</i> sp. n.
Total length*	23.2	27.6
Carapace:		
- length	3.1	3.6
- anterior width	2.2	2.5
- posterior width	3.8	5.0
Metasoma, segment I:		
- length	1.8	2.1
- width	2.4	3.1
Metasoma, segment V:		
- length	3.6	4.3
- width	2.7	3.3
- depth	2.0	2.3
Telson length	3.5	3.9
- width	1.3	1.5
- depth	1.2	1.3
Femur:		
- length	2.4	2.6
- width	0.8	1.0
Patella:		
- length	3.0	3.3
- width	1.0	1.2
Chela:		
- length	4.2	4.7
- width	0.8	1.0
- depth	0.9	1.1
Movable finger:		
- length	3.1	3.3

Table 1: Morphometric values (in mm) of the female paratype of *Orthochirus atarensis* and the female holotype of *Orthochirus maroccanus* sp. n. * excluding telson.

chobothriotaxy: A-β; neobothriotaxy ‘minorante’ in female (Vachon, 1974, 1975). Legs: tarsus with two rows of setae ventrally. Tibial and pedal spurs moderately to strongly marked.

Distribution: Only known from the type locality.

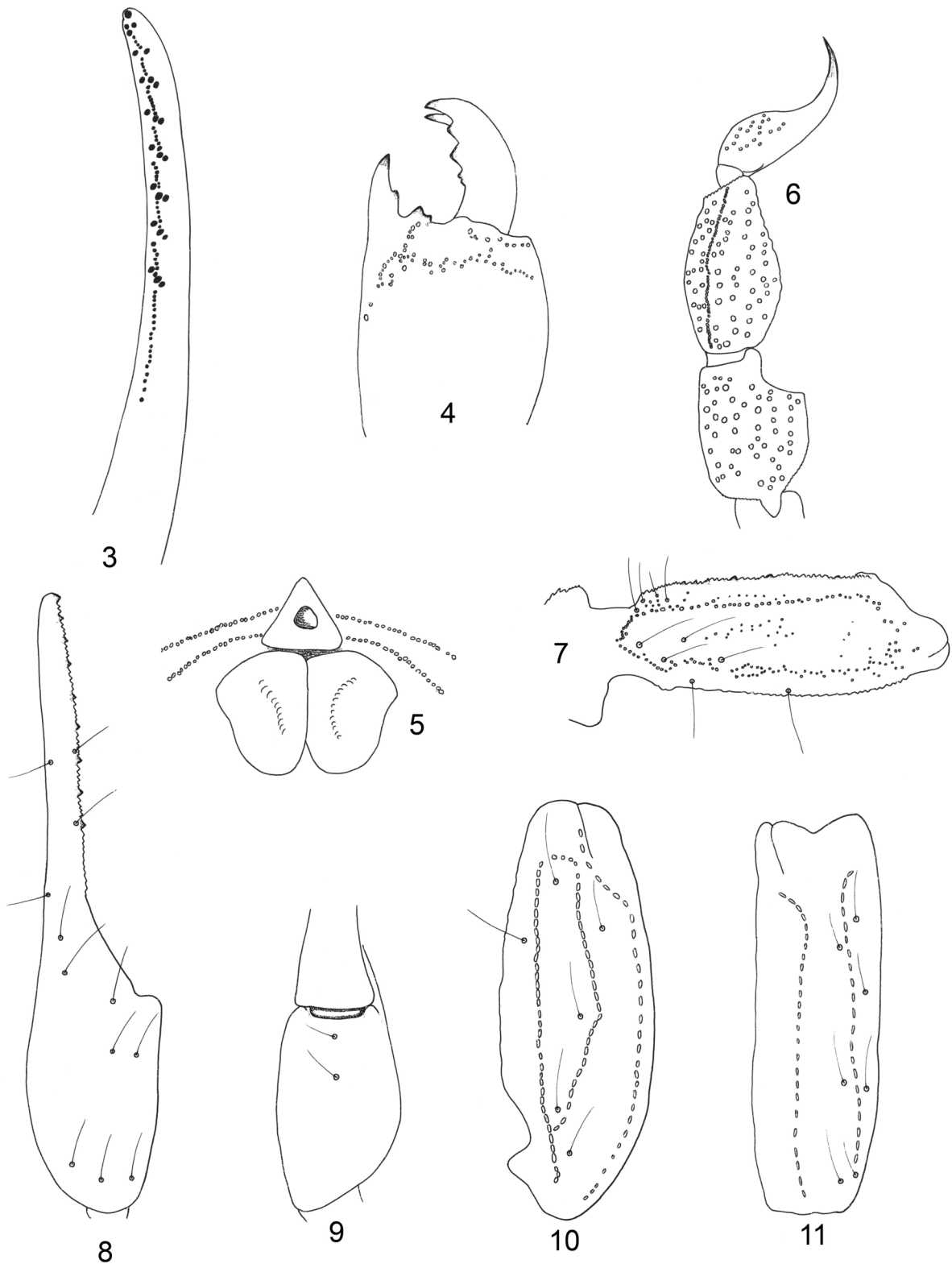
Key to the African species of *Orthochirus*

- 1. Ventral aspect of metasomal segment V with granulations posteriorly *O. innesi*
- (1). Ventral aspect of metasomal segment V without granulations posteriorly 2
- 2. Pectines with more than 20 teeth *O. cloudsley-thompsoni*
- (2). Pectines with less than 20 teeth 3
- 3. Chela dark brown; genital operculum elongated, divided longitudinally into two suboval plates

- *O. aristidis*
- (3). Chela yellowish; genital operculum not elongated
- 4. Trichobothrium *d*₂ present in female *O. atarensis*
- (4) Trichobothrium *d*₂ of femur absent in female 5
- 5. Coloration dark brown to blackish; genital operculum small, weakly elongated with suboval to rounded plates
- (5). Coloration brownish-yellow; genital operculum moderate, elongated with suboval plates
- *O. maroccanus* sp. n.

Acknowledgments

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Figures 3–11: *Orthochirus maroccanus*, female holotype. 3. Disposition of the granulation over the dentate margin of the movable finger. 4. Chelicera, dorsal aspect. 5. Sternum and genital operculum. 6. Metasomal segments IV, V and telson lateral aspect. 7–11. Trichobothrial pattern. 7. Femur, dorsal aspect. 8–9. Chela, dorso-external and ventral aspects. 10–11. Patella, dorsal and external aspects.

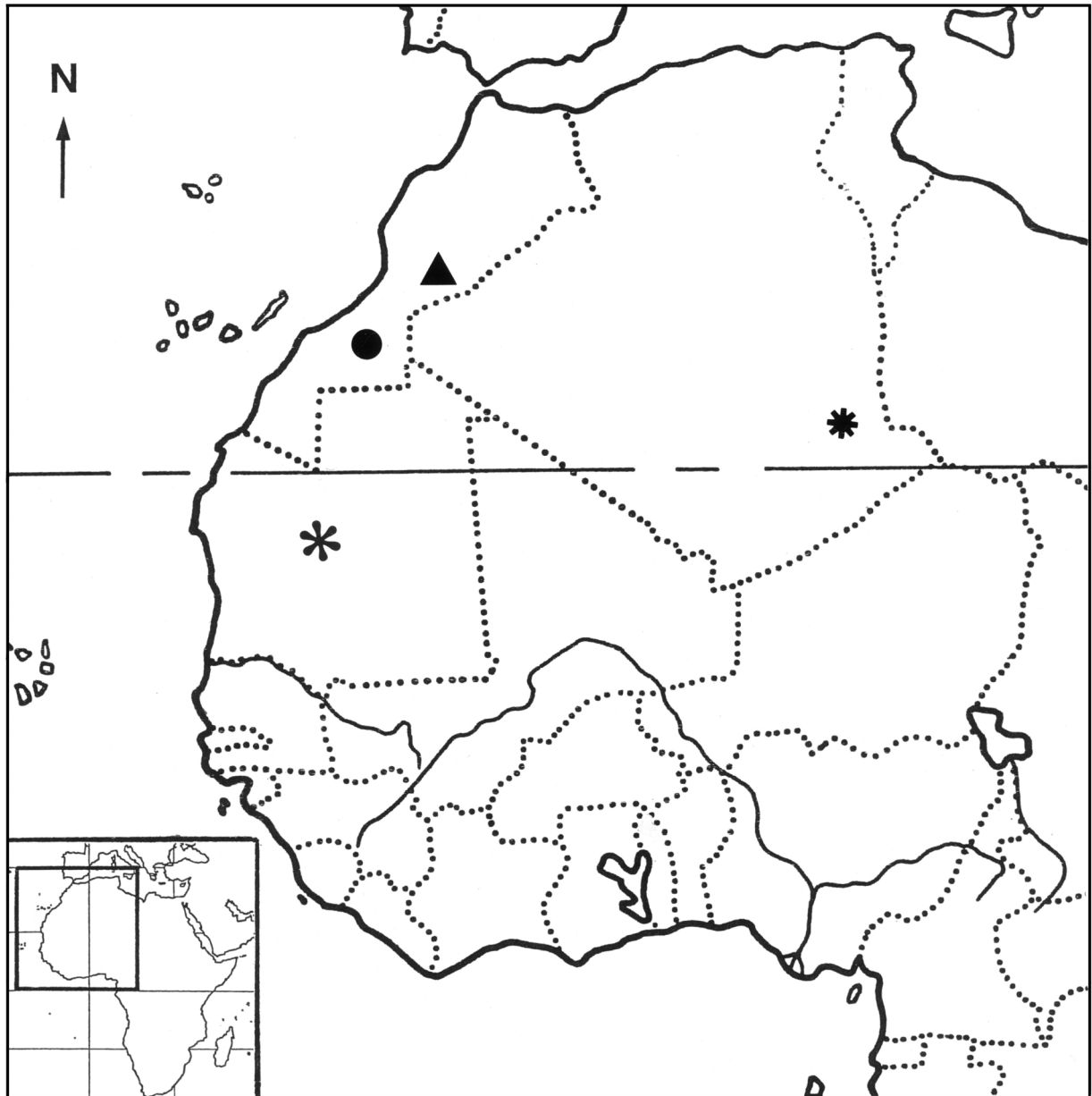


Figure 12: Map of western North Africa, showing the type localities of *Orthochirus maroccanus* sp. n. (black circle), *Orthochirus atarensis* (black flower), *Orthochirus cloudsleythompsoni* (black triangle) and *Orthochirus tassili* (black asterisk).

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Figure 13: Habitat of *Orthochirus maroccanus* sp. n. Desert formation in the region of Aouinet Torkoz, South of Morocco (photo courtesy M. Ayemerich).

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