MORE ABOUT THE AFRICAN SPECIES OF *HEMISCORPIUS* PETERS, 1861 (SCORPIONES: HEMISCORPIIDAE), AND DESCRIPTION OF A NEW SPECIES FROM EGYPT

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Abstract: A new species, *Hemiscorpius egyptiensis* **sp. n.**, is described from the Nubia region in the Upper Nile, Egypt. This is the first record of the genus *Hemiscorpius* Peters for this country. The total number of species in the genus *Hemiscorpius* is now raised to 14.

Key words: Scorpiones, Hemiscorpiidae, Hemiscorpius, new species, Nubia, Egypt.

Nuevos datos sobre las especies africanas de *Hemiscorpius* Peters, 1861 (Scorpiones: Hemiscorpiidae), y descripción de una especie nueva, de Egipto

Resumen: Se describe una especie nueva, *Hemiscorpius egyptiensis* **sp. n.**, de la región de Nubia, en el alto Nilo, Egipto. Es la primera cita del género *Hemiscorpius* Peters de este país. El número total de especies del género *Hemiscorpius* se eleva ahora a 14.

Palabras clave: Scorpiones, Hemiscorpiidae, Hemiscorpius, new species, Nubia, Egypt.

Taxonomy / Taxonomía: Hemiscorpius egyptiensis sp. n.

Introduction

In a recent publication (Lourenço, 2011) considerations were proposed about the species of *Hemiscorpius* reported from East Africa. *Hemiscorpius tellinii* Borelli, 1904 was accepted as a valid and distinct species from *Hemiscorpius socotranus* Pocock, 1899, whereas this last species was considered as a possible endemic element to the Island of Socotra. In fact, previous records of *H. socotranus* from Somalia were considered dubious and probably due to misidentifications, consequently requiring further investigation (Caporiacco, 1937; Moriggi, 1941). One new species, *Hemiscorpius somalicus* Lourenço, 2011 was also described from the region of Meleden in northeast Somalia. For more precise details refer to Lourenço (2011).

After the description of the *H. somalicus*, I was able to locate in the old Simon's collection of scorpions, deposited in the Muséum national d'Histoire naturelle, Paris a rather old specimen of Hemiscorpius collected in the region of Nubia in the Upper Nile, Egypt. Information about the precise date and site of collection of this specimen is not totally available; based on some of Simon's notes it seems, however, that the specimen was collected in the region of Philae near to Aswan by Mr. Aristide Letourneux, who also collected Orthochirus aristidis (Simon, 1882). For more details about this collector refer to Lourenço and Leguin (2011). The study of this specimen reveals that it is quite distinct from the other known species in East Africa. It is described at present as a new species and represents also the first record of the genus Hemiscorpius from Egypt. The total number of species in the genus is now raised to 14 (Note: when this article was already submitted for publication, another African species of Hemiscorpius was described by Kovařík & Mazuch (2011). Consequently, the total number of species is raised to 14).

Methods

Illustrations and measurements were produced with the aid of a Wild M5 stereo-microscope with a drawing tube (camera lucida) and an ocular micrometer. Measurements follow Stahnke (1970) and are given in mm. Trichobothrial notations follow Vachon (1974) and morphological terminology mostly follows Hjelle (1990).

Taxonomic treatment

Family HEMISCORPIIDAE Pocock, 1893

Genus Hemiscorpius Peters, 1861

Hemiscorpius egyptiensis sp. n.

Fig. 3-10. Table I.

TYPE MATERIAL: Egypt, Nubia (Upper Egypt), near to the Nile, ?Philae near to Aswan, date unknown (probably collected by Mr. Aristide Letourneux). One adult male (RS-5055). Deposited in the Muséum national d'Histoire naturelle, Paris.

DIAGNOSIS: Coloration yellowish to pale yellow, with some reddish zones on pedipalps. Small size scorpion: male 23.5 mm in total length. Body and metasoma moderately elongated. Morphometric ratios (L/W) for metasomal segments are as follows: I, 1.8/1.8 = 1.00; II, 2.1/1.8 = 1.17; III, 2.3/1.6 = 1.44; IV, 2.7/1.5 = 1.80; V, 3.5/1.4 = 2.50. Telson vesicle somewhat bulbous, weakly elongated. Tegument of body and appendages without granulations, smooth and with some minute punctuations. Metasomal carinae moderately to strongly developed; ventral moderately marked on segments I-II; dorsal with posterior spinoid granules on segments I-IV. Pedipalp carinae moderately to strongly developed; patella



▲ Fig. 1-4. Dorsal and ventral aspects of: 1-2. *Hemiscorpius somalicus*. Male holotype. 3-4. *Hemiscorpius egyptiensis* sp. n. Male holotype.

► Fig. 5-10. *Hemiscorpius egyptiensis* sp. n. Male holotype. 5-8. Trichobothrial pattern. 5. Chela, dorso-external aspect. 6-7. Patella, dorsal and ventral aspects. 8. Femur, dorsal aspect. 9. Chelicera, dorsal aspect. 10. Metasomal segment V and telson, lateral aspect.

		H. socotranus	H. somalicus	H. egyptiensis sp. n.
Total length (excluding telson length)		32.2	22.3	23.5
Carapace:	- length	4.1	3.6	4.1
	- anterior width	2.4	2.4	2.4
	 posterior width 	3.8	3.6	3.4
Metasomal	- lengt	2.6	1.5	1.8
segment I:	- width	1.9	1.6	1.8
Metasomal	- length	4.9	3.2	3.5
segment V:	- width	1.4	1.1	1.4
	- depth	1.3	1.1	1.3
Vesicle:	- width	1.5	1.2	1.6
	- depth	1.4	1.2	1.3
Pedipalp:	- Femur length	3.6	2.9	3.4
	- Femur width	1.4	1.3	1.3
	 Patella length 	3.8	3.1	3.5
	 Patella width 	1.6	1.3	1.3
	 Chela length 	6.9	5.8	6.9
	 Chela width 	2.5	2.0	2.0
	 Chela depth 	1.8	1.5	2.5
Movable finger:	- length	3.7	3.0	4.1

 Table I. Measurements (in mm) of male from Socotra of Hemiscorpius socotranus, male holotype of Hemiscorpius somalicus and male holotype of Hemiscorpius egyptiensis sp. n.



with dorsoexternal carinae weakly developed; internal apophysis moderately developed with 3-4 granules; internal aspect of femur with some moderately marked spinoid granules. Chela without any scalloping of the proximal dentate margin of fixed finger; fingers with a double row of denticles fused at the proximal 1/2 to 1/3; inner accessory granules inconspicuous. Pectines with 12-12 teeth in male. Tricho-bothrial pattern of type C, orthobothriotaxy. Leg tarsi with two rows of 3-4 spiniform setae. Hemispermatophore unknown.

ETYMOLOGY: Specific name refers to the country where the new species was found.

DESCRIPTION based on MALE HOLOTYPE.

Coloration. Basically yellowish to pale yellow with some reddish zones on the pedipalps. Carapace yellowish with median and lateral eyes surrounded with black pigment. Tergites yellowish. Metasomal segments yellowish; vesicle yellowish; aculeus reddish. Chelicerae yellowish without any variegated spots. Pedipalps yellowish with some carinae reddish. Venter and sternites yellowish; pectines pale yellow legs pale yellow.

Morphology. Carapace without granulations, with some minute punctuation, smooth; furrows shallow. Anterior margin with a moderate concavity reaching as far as the level of the 1st lateral eye. Median ocular tubercle flattened and slightly anterior to the centre of the carapace; median eyes moderate, separated by a little more than one ocular diameter; three pairs of moderate lateral eves: the third smaller than the other two. Sternum pentagonal, longer than wide. Genital operculum narrow formed by two oval plates. Tergites without a median carina, smooth. Pectinal tooth count 12-12 in male holotype. Sternites smooth and shiny; VII acarinate with a few punctuations; sternite III without any granulated or shagreened cuticular zone above the pectines. Metasomal segment I as long as wide; II to V longer than wide (cf morphometric ratios in diagnosis), tegument without granulations. All carinae moderately to strongly marked in segments I to V;

ventral moderately marked on segments I-II; dorsal on segments I-IV with posterior spinoid granules; segment V with five carinae; ventral with slightly spinoid granules. All segments without any chaetotaxy. Telson fairly bulbous, weakly elongated, smooth and covered with weak chaetotaxy. Pedipalps: femur with dorsal internal, dorsal external and ventral internal carinae moderate; all faces without granulations; internal face with some weak spinoid granules. Patella without granulations on all faces, smooth and lustrous; dorsal internal and ventral internal carinae moderate; ventral external and external carinae weak; internal apophysis weakly developed with 3-4 granules. Chela smooth with punctuations; internal face with some granules; carinae vestigial; absence of any scalloping of the proximal dentate margin of fixed finger; fingers with a double row of denticles fused at the proximal 1/3 to 1/2; inner accessory granules inconspicuous. Chelicerae typical of Scorpionoidea (Vachon, 1963); teeth sharp. Trichobothriotaxy type C; orthobothriotaxic (Vachon, 1974). Legs: tarsi with two rows of 3-4 spiniform setae. Tarsal spurs inconspicuous. Hemispermatophore unknown.

RELATIONSHIPS: The new species can be distinguished from *Hemiscorpius socotranus* and *Hemiscorpius somalicus* by a number of features: (i) quite different morphometric values and rates (see diagnosis Table I), (ii) tarsal spurs inconspicuous, (iii) ventral carinae of metasomal segments I and II moderately marked, (iv) anterior margin of the carapace with a moderate concavity, (v) tergites without a median carina.

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