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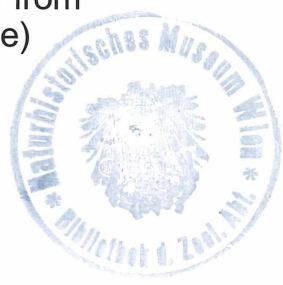
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A new species of *Scorpiops* Peters, 1861 from  
Afghanistan (Scorpiones, Scorpipidae)

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(with 15 figures)



**Abstract**

A new species of scorpion belonging to the genus *Scorpiops* Peters, 1861 (the family Scorpipidae Kraepelin, 1905), is described on the basis of four specimens collected in the northeast region of Afghanistan, Valley of Vakhan, between Langar and Panjeh. The specimens are part of the material collected by the late Prof. Clas Naumann during the 1970s in Afghanistan. The new species is characterized by an intense blackish coloration and the presence of six ventral trichobothria on the patella.

**Key words:** Scorpiones, taxonomy, *Scorpiops afghanus* sp. n., Afghanistan.

**Introduction**

As already explained in a previous paper by Lourenço (1998), the subfamily Scorpipsinae (corrected to the Scorpipinae) was proposed by Kraepelin (1905) to accommodate scorpions of the genus *Scorpiops* Peters, 1861. For a long time this Asian subfamily was placed in the family Vaejovidae Thorell, 1876 but, because of important morphological differences and a quite distinct geographical distribution, its taxonomic position was uncertain. Francke (1976) drew attention to the problem and proposed that the Scorpipinae should not be incorporated in the

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Vaejovidae. Stockwell (1989) proposed a new rank for the Scorpiopinae as a separate family Scorpiopidae. Lourenço (1998) then validated the family Scorpiopidae and promoted all the subgenera of *Scorpiops* proposed by Vachon (1980) to a generic level. Soleglad and Sissom (2001) downgraded the family Scorpiopidae as a subfamily of the Euscorpiidae Laurie, 1896. Finally, Prendini and Wheeler (2005) re-established the Scorpiopidae as a family. In our opinion this is the most justified decision, and it is adopted here.

Several species belonging to the Scorpiopinae have been described in recent publications (e.g., Lourenço 1998, Kovařík 2000, 2004, 2005), but most of these originated from countries in Asia and Southeast Asia. In relation to Afghanistan, the only known species remains *Scorpiops lindbergi* (Vachon, 1980), originally placed in the subgenus *Euscorpiops* Vachon, 1980.

In Lourenço's (1998) paper a new species, *Scorpiops kraepelini*, was described from Loralai District in Pakistan. In his revision of the family Scorpiopidae, Kovařík (2000) classified *S. kraepelini* in synonymy with *S. lindbergi*, based on a study of the types of *S. kraepelini* and some other specimens from Pakistan. Lourenço (2001a) replied to this decision, asserting that these two species present important differences, in particular in their pigmentation which is brownish in *S. lindbergi* and yellowish in *S. kraepelini*. Although the type material of *S. lindbergi* was never examined by Kovařík, this author persisted in his opinion. More recently, Kovařík (2005) commented on the validity of the genus *Euscorpiops*, and claimed once again that *S. kraepelini* is synonymous with *S. lindbergi* - twice in two sentences. This synonymy is again refuted here. Only a precise study of all gradients of the populations distributed from Pakistan to Afghanistan will allow a clarification of the status of two populations.

During his field trips to Afghanistan in the 1970s, the late Professor Clas Naumann collected some scorpions which were subsequently sent to Prof. Max Vachon in Paris. The studies made on them by Vachon did not conclude in any publication, but new studies conducted by the senior author (WRL) obtained some interesting results, including the description of new genera and species (Lourenço 2001b, 2004, 2005). Recent investigation of four more specimens collected in the northeast region of Afghanistan has enabled a description of a new species of *Scorpiops* presented in this paper.

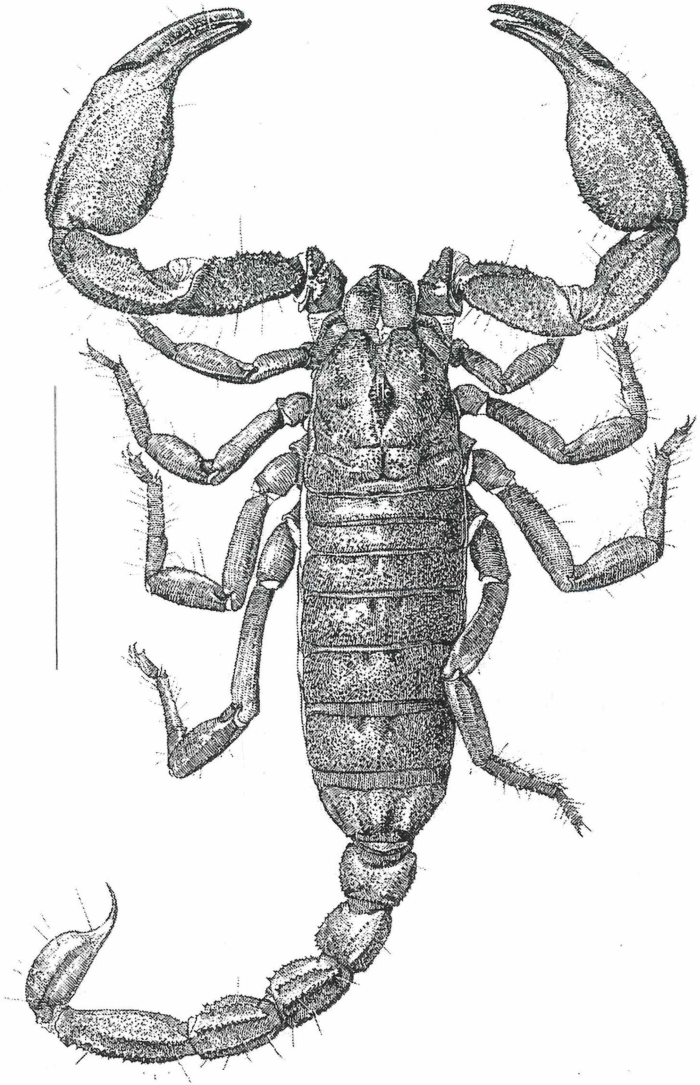
### Description of species

*Scorpiops afghanus* sp. n.

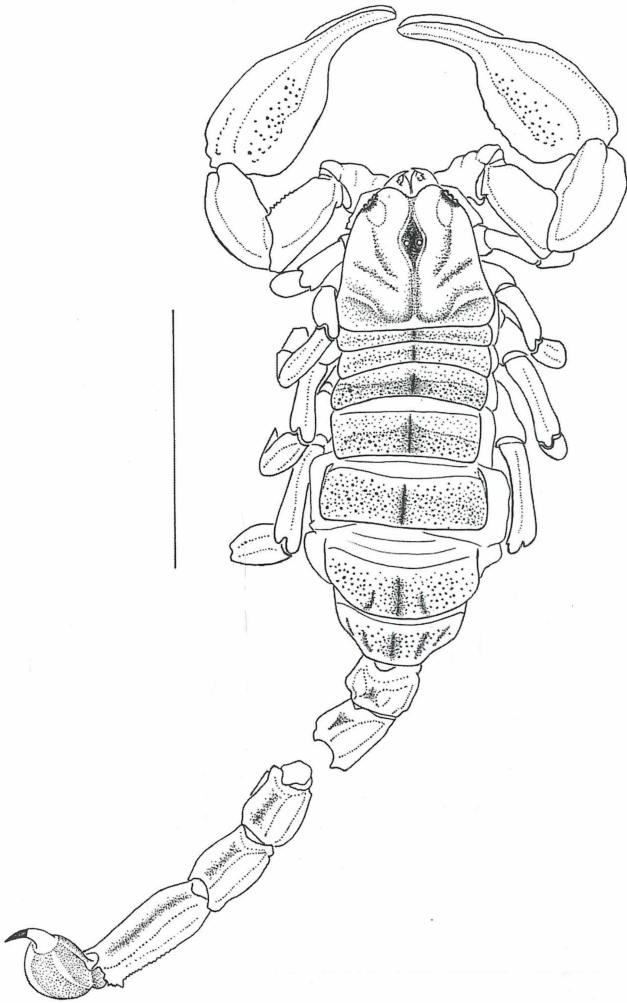
(Figs 2-14)

TYPE MATERIAL: holotype (♀) and three paratypes (♂, 2 juv.♀). Afghanistan, Valley of Vakhán, W of Langar, E of Panjeh, 3400 m a.s.l., 4 June/1971 (coll. C. Nauman & E. Kullmann). Holotype and 2 paratypes deposited in the Zoologisches Museum Hamburg (ZMH Acc. No. A16/06 and A17/06, respectively). One paratype deposited in the Muséum National d'Histoire Naturelle, Paris.

ETYMOLOGY: The specific name makes reference to the country where the new species was collected.

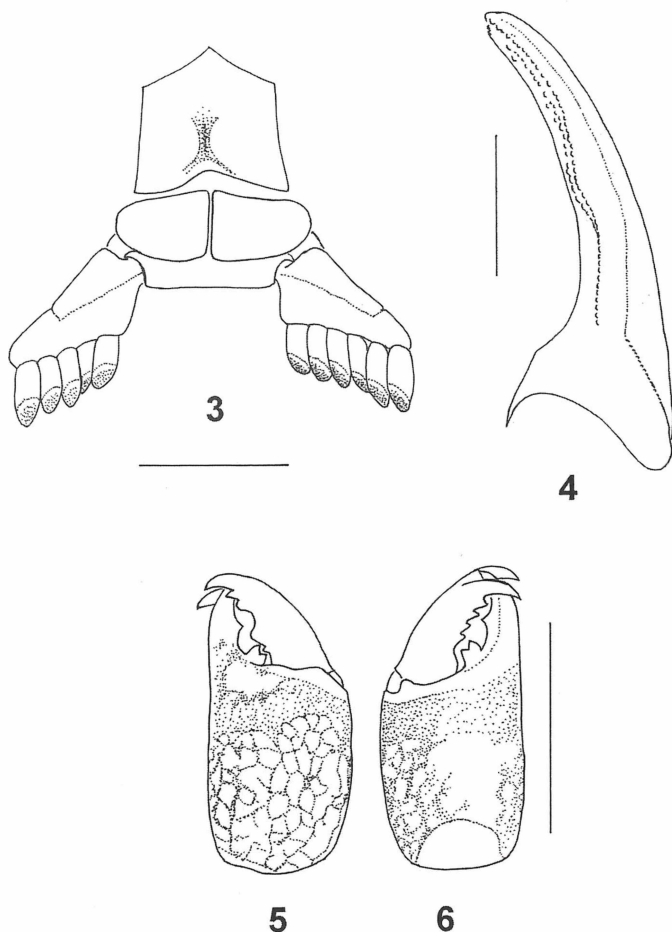


**Fig. 1.** *Scorpiops hardwickii* (Gervais), female from Buthan (after Vachon 1980), dorsal view (scale bar = 1 cm).



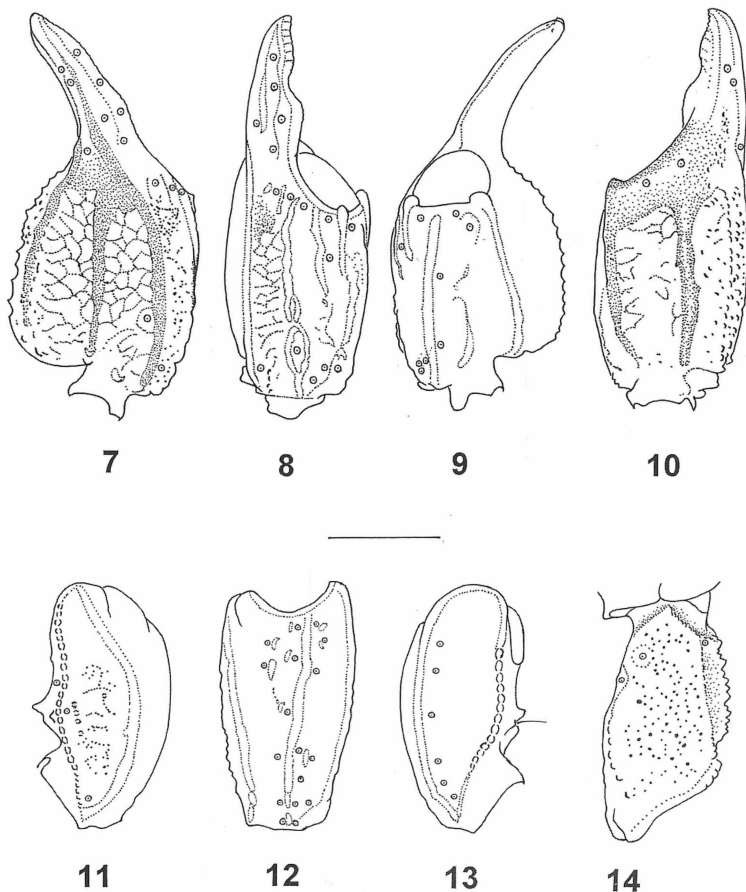
**Fig. 2.** *Scorpiops afghanus* sp. n., holotype (♀), dorsal view (scale bar = 1 cm).

**DIAGNOSIS:** Scorpions of moderate size measuring 36 mm in total length. Coloration overall blackish, including the ventral surface. Weakly marked sculpture of the teguments of carapace and tergites. Pectines small with 5-6 teeth in both sexes. Sternum wider than long. Spiracles conspicuous. Patella with 6 ventral and 17 external trichobothria.



**Figs 3-6.** *Scorpiops afghanus* sp. n., holotype (♀): **3** – sternum, genital operculum and pectines; **4** – disposition of the granulations on the dentate margins of the pedipalp chela movable finger; **5-6** – chelicera, dorsal and ventral aspects (scale bars = 2 mm).

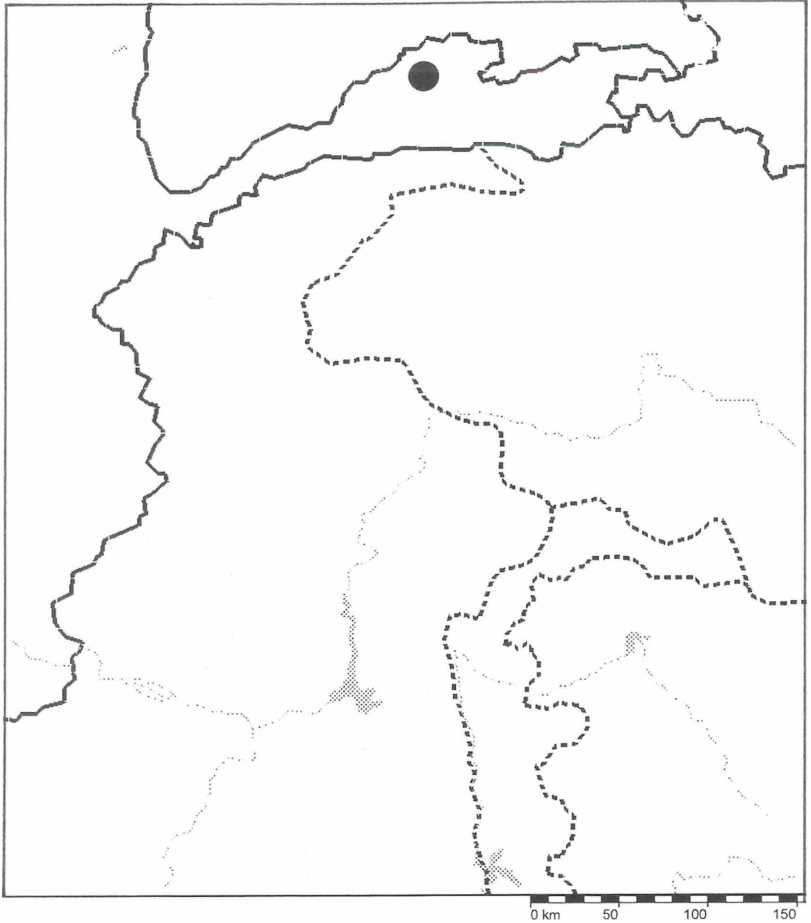
In accordance with the grouping of species in the genus *Scorpiops* proposed by Vachon (1980), the new species should be placed within the group possessing 6 or 7 trichobothria on the ventral surface of the patella. Vachon included several species in this group, including *Scorpiops hardwickii* (Gervais, 1843). The new species shows some similarities to this last species.



**Figs 7-14.** *Scorpiops afghanus* sp. n., holotype (♀). trichobothrial pattern: **7-10** – chela, dorso-external, external, ventral and internal aspects; **11-13** – patella, dorsal, external and ventral aspects; **14** – femur, dorsal aspect (scale bar = 2 mm).

**DESCRIPTION** based on female holotype, morphometric measurements in Table 1.

**Coloration.** Basically blackish, including legs, ventral aspect and vesicle. Absence of any variegated spots on the body. Carapace tergites and vesicle blackish, with the tip of the aculeus yellowish. Chelicerae yellowish with variegated dark spots; fingers dark with reddish-yellow teeth. Venter and sternites dark; genital operculum and pectines slightly paler than sternites.



**Fig. 15.** Map of NE Afghanistan with the type locality of the new species (black circle).

**MORPHOLOGY.** Carapace weakly granular and almost acarinate, furrows shallow. Median eyes small and anterior to the centre of the carapace; three pairs of moderate to small lateral eyes. Sternum pentagonal, wider than long. Tergites moderately granular; VII with four moderately marked carinae. Pectinal tooth count 6-5. Sternites smooth and shiny with conspicuous spiracles; VII with four moderate carinae. Metasomal segments II to V longer than wide; segments I to V with 10-8-8-8-7 carinae present; the dorsal carinae on segments I to IV without any conspicuous spinoid granules; tegument with small vestigial granulations; segment V with spinoid granules on latero-ventral and ventral carinae. Vesicle globular with vestigial granulations. Pedipalps: all segments short and

stocky; femur with dorsal internal, dorsal external, ventral internal, internal and ventral external carinae moderate to strong; tegument weakly granular. Patella with dorsal internal, ventral internal, dorsal external, ventral external and external carinae moderate to strong; internal aspect without an apophysis, and only one ventral spinoid granule and one dorsal vestigial granule present; tegument almost smooth but with some punctuations. Chela with dorsal marginal, external secondary, and ventral internal carinae moderate to strong; ventral median carinae strong; other carinae reduced; tegument with thin granulation dorsally and almost smooth ventrally. Chelicerae according to the pattern defined by Vachon (1963); teeth not sharp. Trichobothriotaxy type C (Vachon 1974). Chela with 4 ventral trichobothria; patella with 17 external and 6 ventral trichobothria. Pectinal tooth count in paratypes: 5-5 (male), 5-5 and 6-6 (females).

**RELATIONSHIPS:** The new species shows similarities with *S. hardwickii*, (Fig.1), but can be distinguished from this taxon by (i) overall blackish pigmentation, (ii) much less intense granulation, (iii) a more globular vesicle, (iv) pedipalps shorter and stocky, (v) spiracles more conspicuous.

**Table 1.** Measurements (in mm) of the holotype (♀) of *Scorpiops afghanus* sp. n. and a female of *S. hardwickii* (Gervais) from Nepal.

	<i>S. afghanus</i> sp. n.	<i>S. hardwickii</i>
Total length	36.2	40.5
Carapace:		
-length	5.8	6.1
-anterior width	3.8	3.4
-posterior width	6.8	6.6
Metasoma, segment I:		
-length	2.1	2.0
-width	2.6	2.9
Metasoma, segment V:		
-length	5.4	5.2
-width	2.1	1.8
-depth	1.8	1.7
Vesicle:		
-width	2.2	2.0
-depth	2.1	1.8
Pedipalp:		
-Femur length	4.5	4.9
-Femur width	2.1	2.0
-Patella length	4.8	5.3
-Patella width	2.4	2.2
-Chela length	9.8	10.4
-Chela width	4.5	4.2
-Chela depth	3.2	3.2
-Movable finger length	5.6	5.3



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