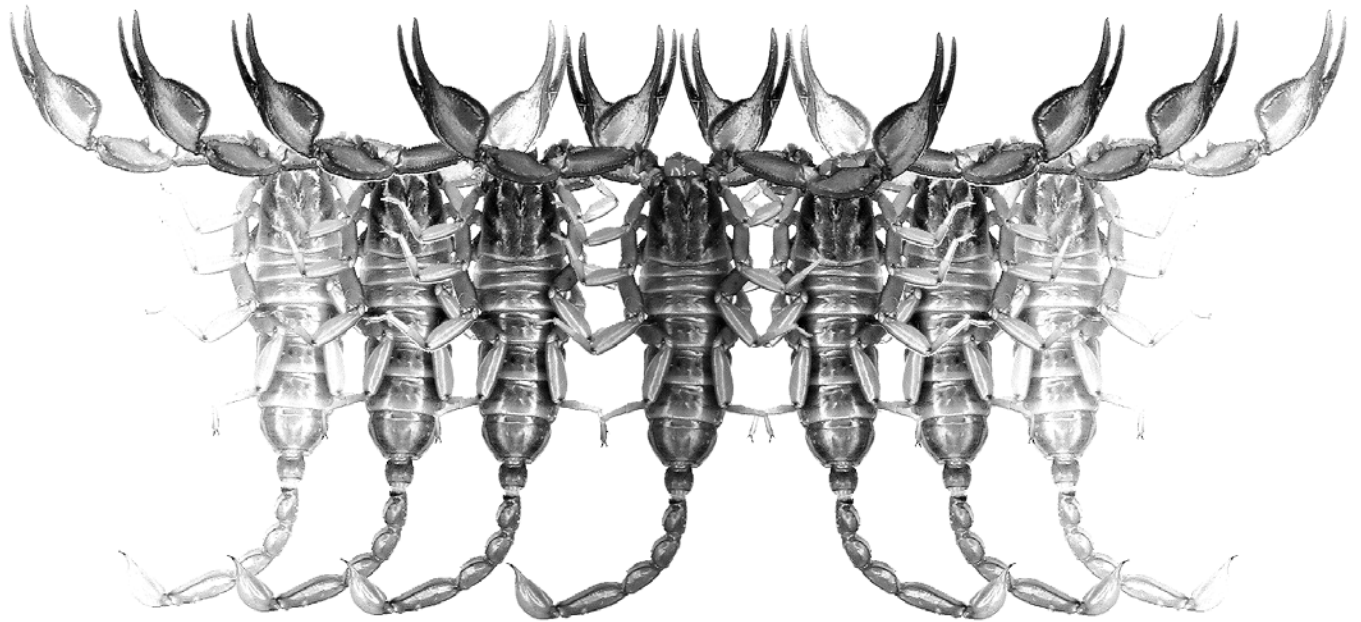


# *Euscorpilus*

Occasional Publications in Scorpiology



**Redescription of *Scorpiops margerisonae* Kovařík, 2000, with  
the First Record of its Female, from China (Xizang)  
(Scorpiones: Euscorpiidae: Scorpiopinae)**

Zhi-Yong Di & Ming-Sheng Zhu

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# *Euscorpius*

## Occasional Publications in Scorpiology

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- **OUMNH**, Oxford University Museum of Natural History, Oxford, UK
- **NEV**, Library Netherlands Entomological Society, Amsterdam, Netherlands

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**Publication date: 1 November 2010**

# Redescription of *Scorpiops margerisonae* Kovařík, 2000, with the first record of its female, from China (Xizang) (Scorpiones: Euscorpiidae: Scorpiopinae)

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## Summary

*Scorpiops margerisonae* Kovařík, 2000 (Euscorpiidae: Scorpiopinae), from China (Xizang) is redescribed; its female is reported and depicted here for the first time.

## Introduction

The genus *Scorpiops* comprises 25 species widely distributed in South and Southeast Asia including India, Bhutan, Pakistan, Afghanistan, Nepal, Bangladesh, Malaysia, Thailand, Vietnam, Laos, and China (Vachon, 1980; Tikader & Bastawade, 1983; Kovařík, 1994, 2000, 2004, 2005; Fet, 2000; Qi, Zhu & Lourenço, 2005; Lourenço & Qi, 2006; Di & Zhu, 2009; Kovařík & Ahmed, 2009).

*Scorpiops margerisonae* Kovařík, 2000 was described from China based only on a single male holotype. Here, we report additional specimens, among them females are reported for the first time, and provide a redescription of the species.

## Methods

Illustrations and measurements were produced using a TTL-II stereomicroscope with an Abbe drawing device and an ocular micrometer. Measurements follow Sissom, Polis & Watt (1990) and are given in mm. Trichobothrial notations follow Vachon (1974), and morphological terminology mostly follows Hjelle (1990). Terminology of metasomal carination follows Vachon (1952) and terminology of pedipalp chelar carinae follows Prendini (2000). The specimens studied in this paper are deposited in the Museum of the College of Life Sciences, Hebei University (MHBU).

## Taxonomy

Family Euscorpiidae Laurie, 1896  
Subfamily Scorpiopinae Kraepelin, 1905  
Genus *Scorpiops* Peters, 1861

*Scorpiops* Peters, 1861: 510; Kraepelin, 1899: 179 (in part); Pocock, 1900: 64 (in part); Vachon, 1980: 143

(in part); Tikader & Bastawade, 1983: 403 (in part); Lourenço, 1998: 246 (in part); Kovařík, 2000: 163–166 (in part); Fet, 2000: 491 (in part); Soleglad & Sissom, 2001: 93; Zhu, Qi & Song, 2004: 114–115 (in part); Kovařík, 2005: 8; Qi, Zhu & Lourenço, 2005: 2.

**Type species:** *Scorpiops hardwickii* (Gervais, 1843).

**Diagnosis.** Trichobothrium  $Eb_3$  on the external aspect of pedipalp chela located basally from trichobothrium  $Dt$ . Annular ring at vesicle/aculeus juncture absent. Three pairs of lateral eyes. Pedipalp patella with 17–19 external trichobothria. Ventral aspect of patella with 6–18 trichobothria. Chela with four trichobothria on the ventral aspect of the manus.

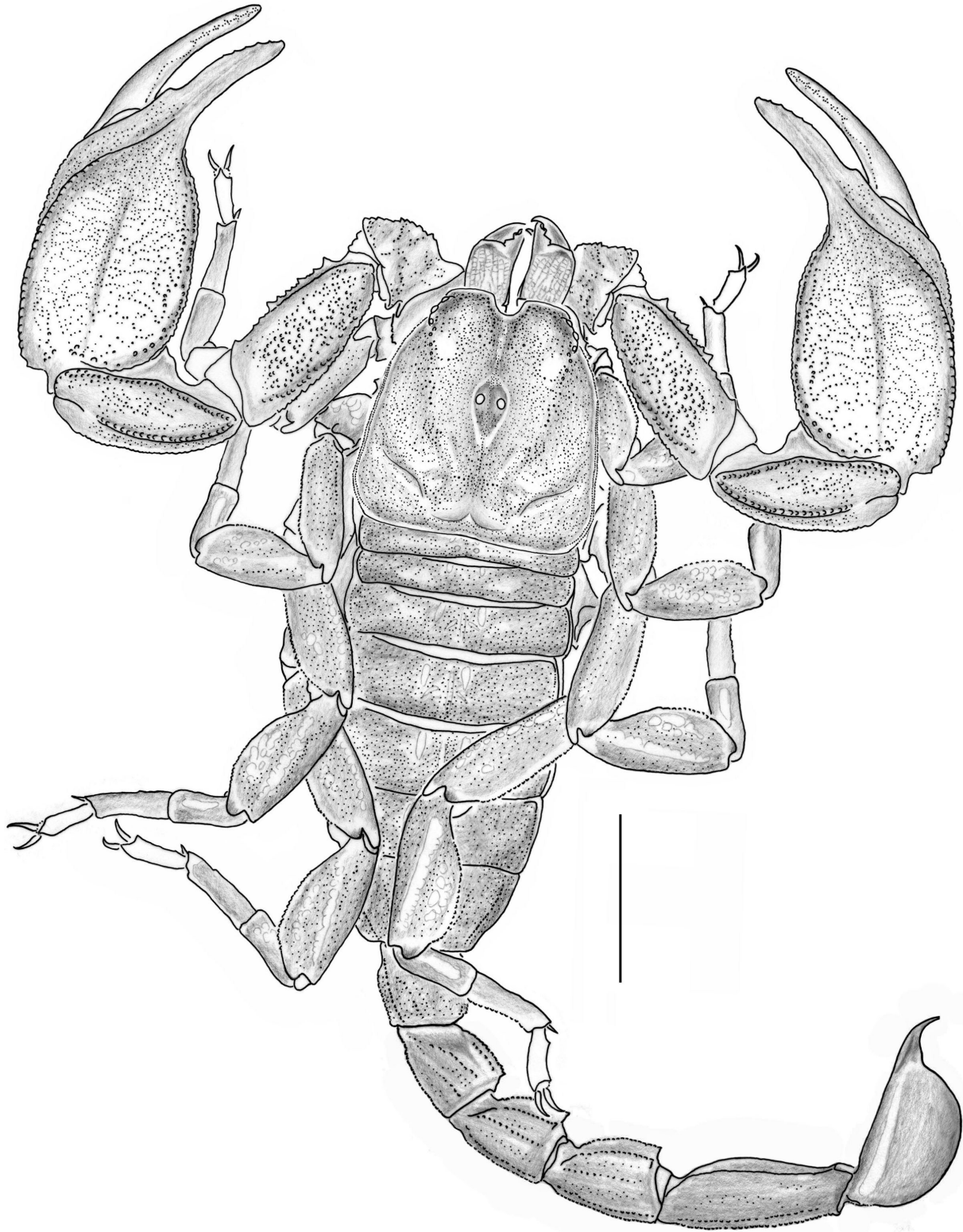
***Scorpiops margerisonae* Kovařík, 2000**  
(Figures 1–23, Tables 1–2)

*Scorpiops margerisonae* Kovařík, 2000: 160 (tab. 1), 183 (fig. 66), 185 (fig. 70), 189; Zhu, Qi & Song, 2004: 115.

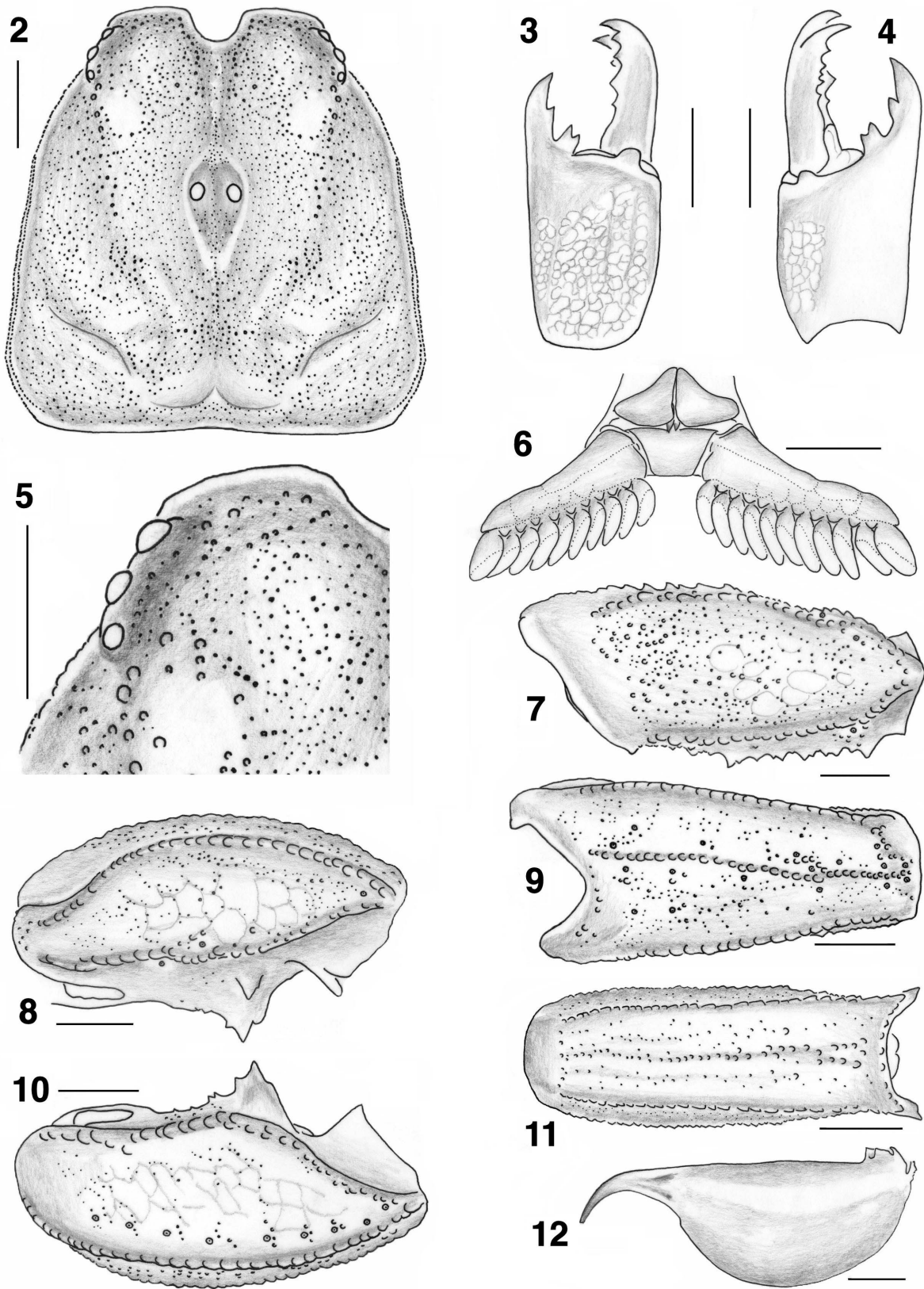
**New material examined:** China: 1 ♂, 1 ♀ (Ar.-MHBU-XZLX060137, Ar.-MHBU-XZLX060138) and 7 juvs., Langxian District, Xizang, 4 August 2006, leg. Ming-Sheng Zhu; 5 ♂♂ (Ar.-MHBU-XZND060188, Ar.-MHBU-XZND060218, Ar.-MHBU-XZLX060238, Ar.-MHBU-XZLX060245, Ar.-MHBU-XZLX060246), 4 ♀♀ (Ar.-MHBU-XZND060189, Ar.-MHBU-XZND060219, Ar.-MHBU-XZLX060220, Ar.-MHBU-XZLX060247), 1 ♀ (imm.) (Ar.-MHBU-XZLX060248) and 5 juvs., Naidong District, Xizang, 9 August 2006, leg. Ming-Sheng Zhu. Found under stones.

**Diagnosis:** *Scorpiops margerisonae* has a moderate size and also differs from the other members of the group in

† Deceased.



**Figure 1:** *Scorpiops margerisonae* Kovařík, 2000, male (Ar.-HBU-XZLX060137). Dorsal view. Scale bar: 5.0 mm.



**Figures 2–12:** *Scorpiops margerisonae* Kovařík, 2000, male (Ar.-HBU-XZLX060137). **2.** Carapace. **3–4.** Chelicera, dorsal and ventral aspects. **5.** Lateral eyes. **6.** Genital operculum and pectines. **7.** Femur, dorsal aspect. **8–10.** Patella, dorsal, external and ventral aspects. **11.** Metasomal segment V, ventral aspect. **12.** Telson, lateral aspect. Scale bars (except fig. 6): 1.0 mm; scale bar of fig. 6: 2.0 mm.

<i>Scorpiops margerisonae</i> Kovařík, 2000		
	Male (Ar.-HBU- XZLX060137)	Female (Ar.-HBU- XZLX060138)
Total length	40.0	45.7
Carapace:		
- Length	6.2	7.1
- Anterior width	3.6	4.1
- Posterior width	6.3	7.2
Metasomal segment I:		
- Length	2.2	2.5
- Width	2.4	2.2
- Depth	2.0	2.2
Metasomal segment II:		
-Length	2.8	2.8
-Width	2.1	2.3
-Depth	1.9	2.0
Metasomal segment III :		
- Length	3.0	3.1
- Width	2.0	2.2
- Depth	2.0	2.1
Metasomal segment IV:		
-Length	3.5	3.4
-Width	1.9	2.0
-Depth	2.0	2.2
Metasomal segment V:		
- Length	5.4	5.8
- Width	1.9	2.0
- Depth	1.8	1.8
Telson		
- Length	5.8	6.2
- Width	2.3	2.4
- Depth	2.1	2.2
Pedipalp femur		
- Length	5.5	4.3
- Width	2.4	2.8
- Depth	1.9	2.0
Pedipalp patella		
- Length	5.1	5.6
- Width	2.8	3.1
- Depth	2.6	2.8
Chela		
- Length	10.0	10.8
- Width (manus)	4.7	4.9
- Depth (manus)	3.3	3.5
Movable finger:		
Length	6.1	6.6

**Table 1:** Measurements of male and female of *Scorpiops margerisonae* (in mm).

possessing 9 or 10 (rarely 8) ventral trichobothria on the patella; with dorsally flat manus of pedipalps. *S. margerisonae* can be distinguished from other *Scorpiops* species from China, in particular from *S. tibetanus*, the most similar species of the genus by the following features: (1) a dorsally flat manus, which is not flat in *S. tibetanus*; (2) chela strong, both sexes with near length/width ratio: 2.1–2.2 (mean about 2.1 in males and 2.2 in females), whereas in *S. tibetanus*, it is 2.0 in male and 2.5 in female; (3) total length 40.0–50.0 mm in adults, whereas in *S. tibetanus*, it is above 50.0 mm (Kovářik, 2000).

**Redescription** (based on male specimen Ar.-HBU-XZLX060137):

**Coloration:** Basically dark brown (Fig. 22). Carapace dark brown, median and lateral ocular tubercles black. Tergites dark red brown. Metasoma segments dark red brown; vesicle with a red brown aculeus. Chelicerae red brown; with the fingers red brown and gradually lighter toward the tip. Pedipalp femur and patella dark brown; and the chela red brown with the fingers dark red brown. Legs red brown with yellow brown spots. Claws red brown. Sternum, genital operculum, venter and sternites yellow brown. Pectines yellowish.

**Morphology:** Carapace coarse, with minute granules (Figs. 2, 5); lateral furrow broad and flat; anterior median furrow broad and moderately deep; posterior median furrow deep; anterior and posterior margins smooth; lateral margins with dense, minute granules; anterior granules larger than the posterior ones. Median eyes situated anterior to the center of the carapace; three pairs of lateral eyes, the third smallest. Median ocular tubercle smooth with a pair of median eyes, which are larger than the first two pairs of lateral eyes. Lateral ocular tubercle with some granules.

**Mesosoma:** Tergites are almost completely densely covered with small and coarse granules (smooth on female) (Figs. 22–23), posterior part of tergites with some larger ones; from tergite II to VI the trace of a median carina first appears and gradually becomes distinct; on tergite VII with a distinct carina, and two pairs of lateral carinae. Pectinal tooth count 11/10, fulcra present (Fig. 6). Genital opercula subtriangular. Sternites almost smooth and shiny; segment VII ventrally with 4 granulated carinae.

**Metasoma:** integument coarse; segments I to V have 10-8-8-8-7 carinae, segments II–IV with a vestigial pair of lateral carinae; all dorsal carinae serrated on segment I, and become more serrated from II to IV; on segment V, carinae more weakly serrated dorsally and more strongly serrated ventrally. Vesicle smooth (Fig. 23), with few setae.

**Pedipalps:** Femur with external, dorsointernal, dorsoexternal, ventrointernal, ventroexternal and internal carinae granulated; tegument with evenly scattered big granules dorsally and small granules ventrally. Patella with dorsointernal, dorsoexternal, ventrointernal, ventroexternal and external carinae with large, smooth granules (Figs. 9–10); two large spinoid granules present on the internal aspect; tegument with coarse granules dorsally and few smooth granules ventrally. Trichobothrial pattern C, neobothriotaxic (Vachon, 1974); patella with 17 external trichobothria (5 *eb*, 2 *esb*, 2 *em*, 4 *est*, 4 *et*), 9 (or 10) ventral trichobothria. Chela moderately wide, with four ventral trichobothria; with dorsal marginal, external secondary, and ventral internal carinae, all smooth; ventral median carina strong; tegument granulated dorsally and ventrally. Fingers curved (Figs. 13–17).

**Chelicerae:** Tibiae are smooth, with reticular pattern. Movable finger with four denticles on dorsal edge and five denticles on ventral edge. Fixed finger with three denticles on dorsal edge (Figs. 3–4).

**Legs:** Trochanter with few granules and setae. Femur dorsal surface densely granular and ventrally smooth, internally with two granular carinae. Patella dorsally with scattered small granules, internally with one granular carina. Tibiae with few setae, without spurs. Basitarsus with three distinct rows of spinules and more setae, with two lateral pedal spurs. Tarsus ventrally with row of spinules. Tarsal ungues curved, hook-like.

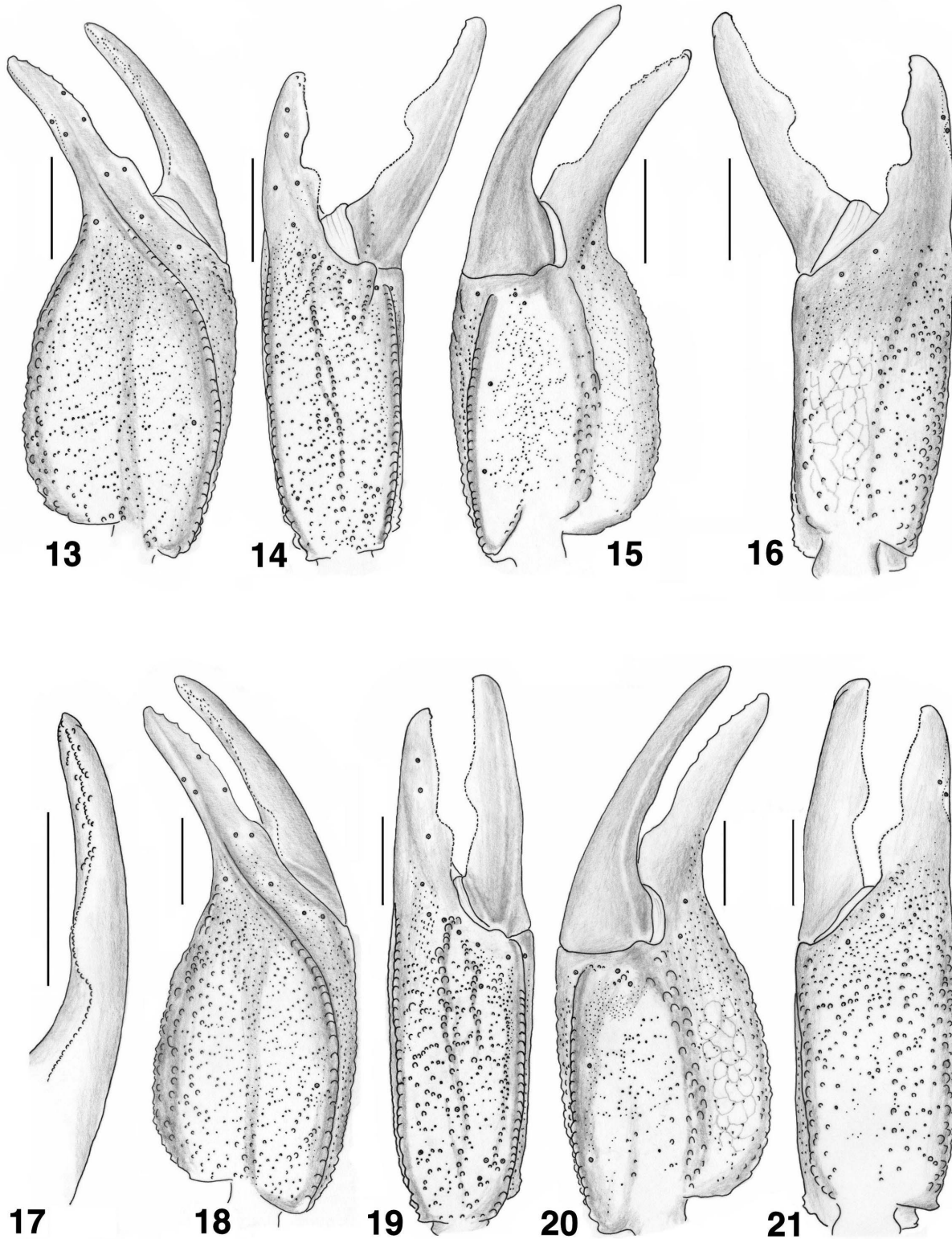
**Variation.** Males and females: coloration and morphology are very similar to the holotype and the male specimen described above. Measurements of a representative male and female are given in Table 1.

Variation in number of ventral trichobothria on the pedipalp patella and number of pectinal teeth is listed in Table 2. The holotype of *Scorpiops margerisonae* has 8 and 9 ventral trichobothria on the pedipalp patella, while all our specimens have 9 or 10 (Table 2). Also, Kovářik (2000) in the original description noted that the number of pectinal teeth in *Scorpiops margerisonae* was the highest in the genus (12/13). Our six male specimens, however, show most commonly only 10 to 11 pectinal teeth (Table 2).

**Distribution:** China (Xizang).

## Acknowledgments

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**Figures 13–21:** 13–17. *Scorpions margerisonae* Kovařík, 2000, male (Ar.-HBU-XZLX060137). 13–16. Chela dorsoexternal, external, ventral and internal aspects. 17. Dentate margin of movable finger, showing rows of granules. 18–21. *S. margerisonae* Kovařík, 2000, female (Ar.-HBU-XZLX060138). Chela dorsoexternal, external, ventral and internal aspects. Scale bars: 2.0 mm.





**22**



**23**

Figures 22–23: *Scorpiops margerisonae* Kovařík, 2000. 22. Male. 23. Female. Dorsal views. Scale bars: 5.0 mm.

<i>Scorpiops margerisonae</i> Kovařík, 2000		
Collection number and sex	Ventral trichobothria of pedipalp patella	Pectinal teeth
Ar.-HBU-XZLX060137, ♂	9/9	11/10
Ar.-HBU-XZLX060188, ♂	9/9	10/9
Ar.-HBU-XZLX060218, ♂	9/9	11/11
Ar.-HBU-XZLX060238, ♂	10/9	12/11
Ar.-HBU-XZLX060245, ♂	10/10	10/10
Ar.-HBU-XZLX060246, ♂	9/10	10/10
Ar.-HBU-XZLX060138, ♀	10/9	9/10
Ar.-HBU-XZLX060189, ♀	9/9	8/8
Ar.-HBU-XZLX060247, ♀	9/9	8/8
Ar.-HBU-XZLX060248, ♀ (imm.)	9/10	8/8
Average ±SD	9.3 ± 0.47	♂♂: 10.6 ± 0.70 ♀♀: 8.4 ± 0.74

**Table 2:** Numbers of ventral trichobothria of pedipalp patella and pectinal teeth in *S. margerisonae* (Left/Right).

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