

and gradually become strongly serrated from II to IV; the tegument is punctated; on segment V, carinae with smaller serration dorsally and larger serration ventrally. Vesicle is coarse but without granules.

Pedipalps: femur with dorsointernal, dorsoexternal, ventrointernal and ventroexternal carinae, all are crenulate; tegument granular except ventral surface which is weakly granular; patella with dorsointernal, ventrointernal, ventroexternal and external carinae, are serrated; two spinoid granules present on the internal aspect, the internal-ventral spinoid granule being much larger than the internal-dorsal one; tegument punctuated except ventral, which is almost smooth. Chela bears dorsal marginal, external secondary, and ventral internal carinae which are weakly to moderately granular; ventral median carinae is strong and smooth; other carinae are vestigial or absent; tegument is almost smooth dorsally and ventrally. Trichobothriotaxy type C (Vachon, 1974). Chela with four ventral trichobothria. Patella with 17 external and nine ventral trichobothria.

Female paratype. Coloration and morphology are very similar to that of the male holotype. Some of the segments are slightly bulkier than that of the male. Pectinal tooth count 9-9.

Measurements (male holotype/female paratype). Total length, 34.94/36.48. Carapace: length, 5.87/6.12; anterior width, 2.68/2.81; posterior width, 5.87/6.12. Metasomal segment I: length, 1.40/1.40; width, 2.30/2.55. Metasomal segment V: length, 4.72/4.85; width, 1.66/1.79; depth, 1.91/1.66. Vesicle: width, 2.18/2.04; depth, 2.04/1.91. Pedipalp: femur length, 5.10/5.36; width, 2.04/2.55; patella length, 4.72/5.23; width, 2.30/2.55; chela length, 6.38/5.23; width, 4.08/4.08; depth, 2.68/2.68; movable finger length, 5.74/4.08.

***Scorpiops langxian* Zhu, Qi et Lourenço, sp. n.**
(Figs. 32-46)

Diagnosis: In accordance with the grouping of species proposed by Kovařík (2000a) for the genus *Scorpiops*, the new species, which has seven trichobothria on the ventral surface of the patella, has to be placed in *Scorpiops leptochirus* group. The new species differs from other members of the group with seven trichobothria (*Scorpiops braunwalderi* Kovařík, 2000, *S. feti* Kovařík, 2000, and *S. leptochirus* Pocock, 1893) in possessing a much less wide manus and in being densely covered with fine compact granules on dorsal surface (see Fig. 33). Furthermore, the fingers of pedipalps are flexed in both sexes (Figs. 33-36), whereas in the abovementioned three species they are nearly straight.

Comments. *Scorpiops langxian* sp. n. can be distinguished from other *Scorpiops* species, and in particular from *S. leptochirus* Pocock, 1893, the most geographically close species of the genus, by the following fea-

tures: (a) entire carapace is densely covered with fine compact granules; (b) all tergites are finely granular; (c) fingers of pedipalps are flexed in both sexes.

Material. 1♂ holotype male, Tibet, Lang district (29°02' N, 93°08' E), June to August 2004, Ai-Min Shi and Yi-Bin Ba leg. (MHBV); Paratypes 1♀, 1♂ same data as holotype (MHBV); 1♀, Tibet, Nyingchi district (29°34' N, 94.30° E), Baishuwang town, 21 August 2003, Feng Zhang leg. (MNHN).

Etymology. The specific name refers to Lang district of Tibet, type locality of the new species.

Description (based on male holotype):

Coloration: Basically dark brown without any diffuse variegated fuscous spots. Carapace is dark brown. Tergites are dark brown. Metasoma segments are black brown with pale stripes; vesicle is brown with the extremity yellowish. Chelicerae is black brown, and its fingers are dark brown with the top pale brown. Pedipalps are yellow with dark brown stripes. Legs bear brown spots; the claws of legs is reddish-brown. Venter and sternites are pale dark brown.

Morphology: Carapace lustrous and acarinate, lateral furrow broad and flat, posterior median furrow shallow slit-shaped; with dense, minute punctuation. Median eyes are anterior to the center of the carapace; three pairs of lateral eyes. Sternum is pentagonal, longer than wide. Tergites are almost acarinate, with scattered small punctations; tergite I has almost no carinae, downwards, the median carina gradually becomes distinct to finely granular; tergite VII with a median carina and two pairs of lateral carinae. Pectinal tooth count 8-8, fulcra absent. Sternites are almost smooth and shiny; sternite VII is granular, with four smooth granular carinae. Metasoma segments II to V are longer than wide; segments I to V have 10-10-10-10-7 carinae; only on segment I all the carinae are distinct; segments II-IV with a pair of lateral carinae weakened; segments I-IV only with a pair of dorsal carinae crenulated, other carinae with smooth granules; the tegument is coarsely granular; dorsal carinae of segments V are irregularly granular with small granulation ventrally. Vesicle is smooth and shiny with small punctations.

Pedipalps: femur with dorsointernal, dorsoexternal, ventrointernal and ventroexternal crenulated carinae; tegument with evenly scattered coarse granules dorsally and smooth granules ventrally. Patella with dorsointernal, ventrointernal, ventroexternal and external carinae with smooth granules; two spinoid granules present on the internal aspect, the internal-ventral spinoid granule being much larger than the internal-dorsal one; tegument with coarse granules dorsally and almost everywhere with smooth granules ventrally. Chela with dorsal marginal, external secondary, and ventral internal carinae,

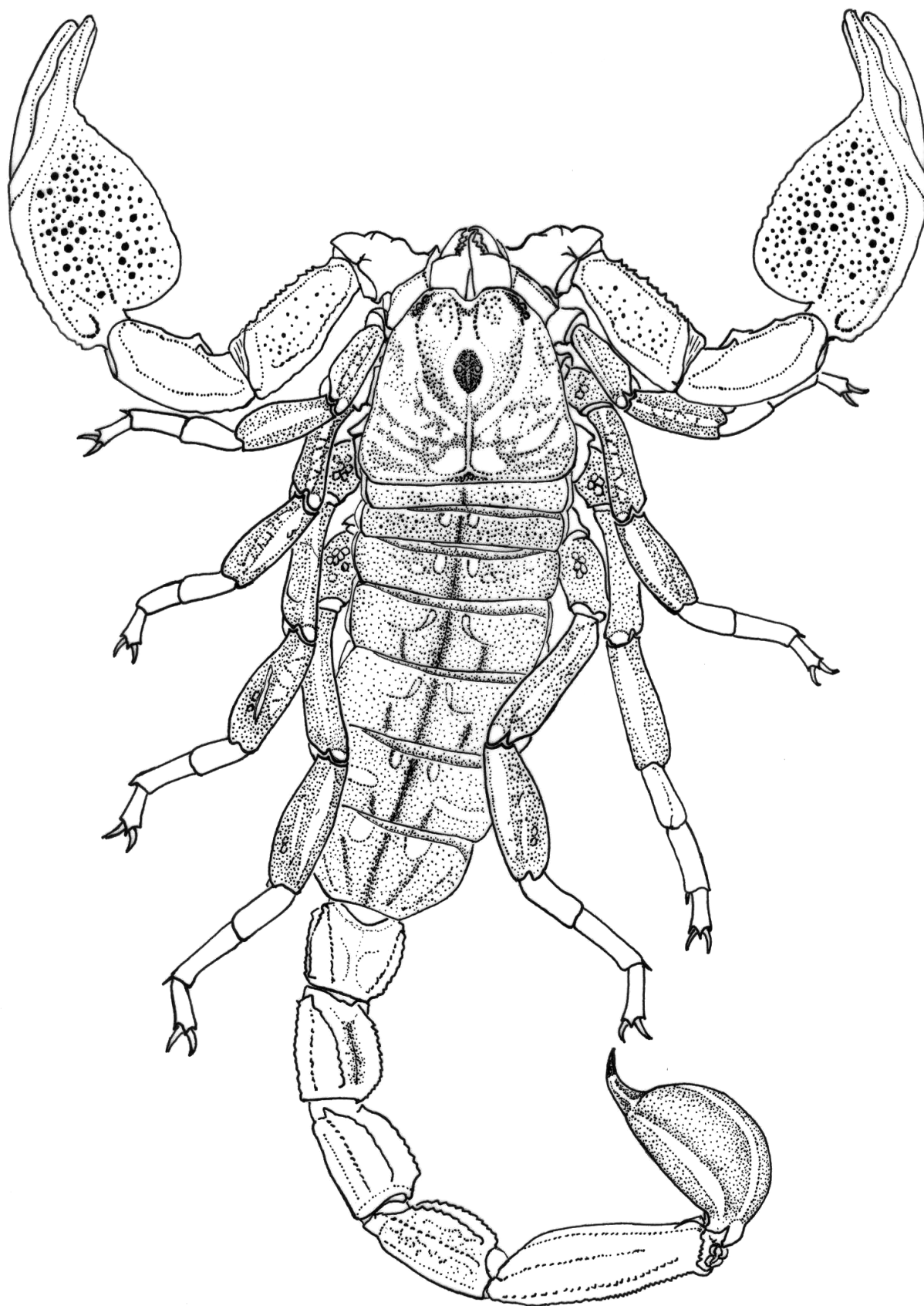
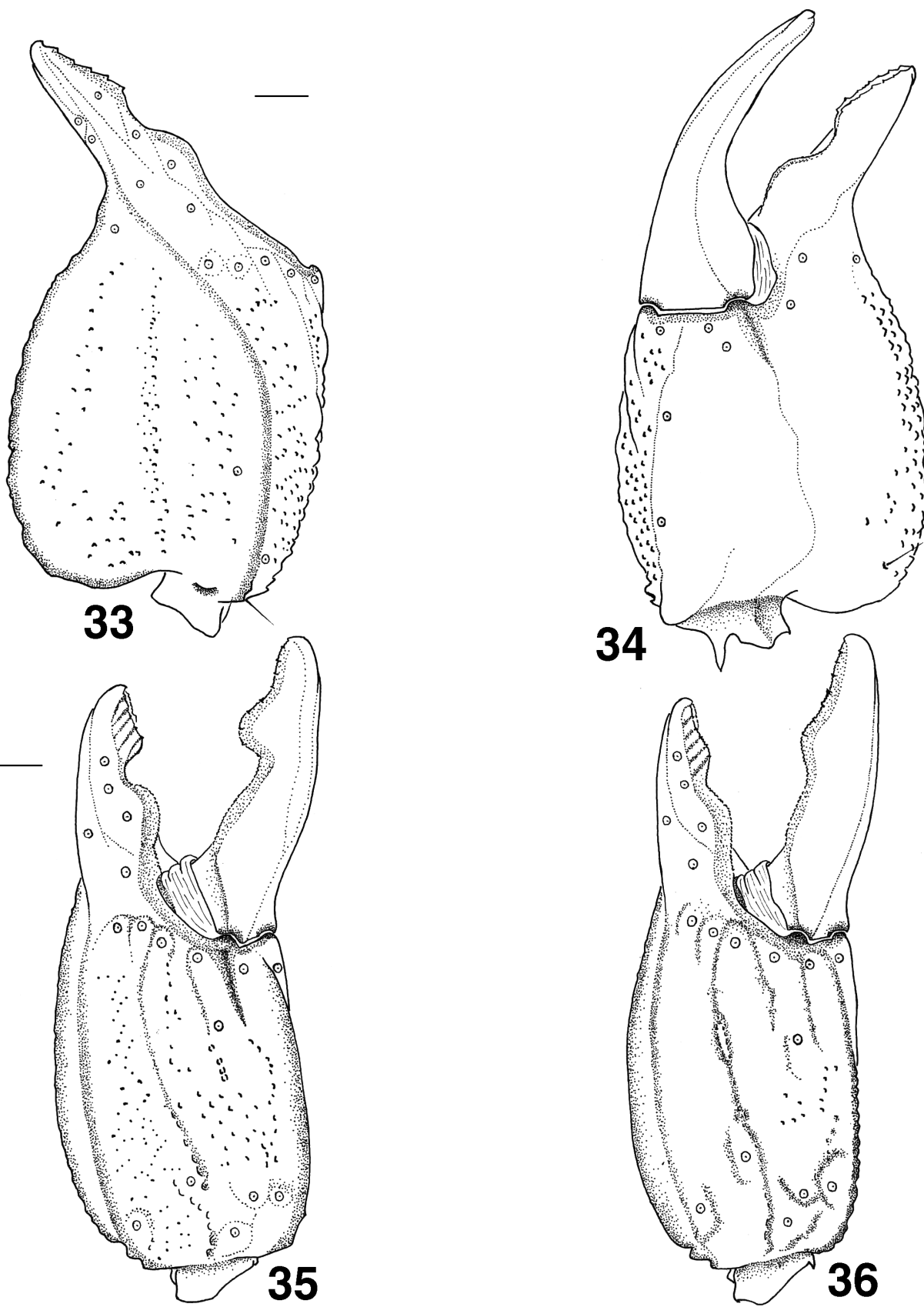
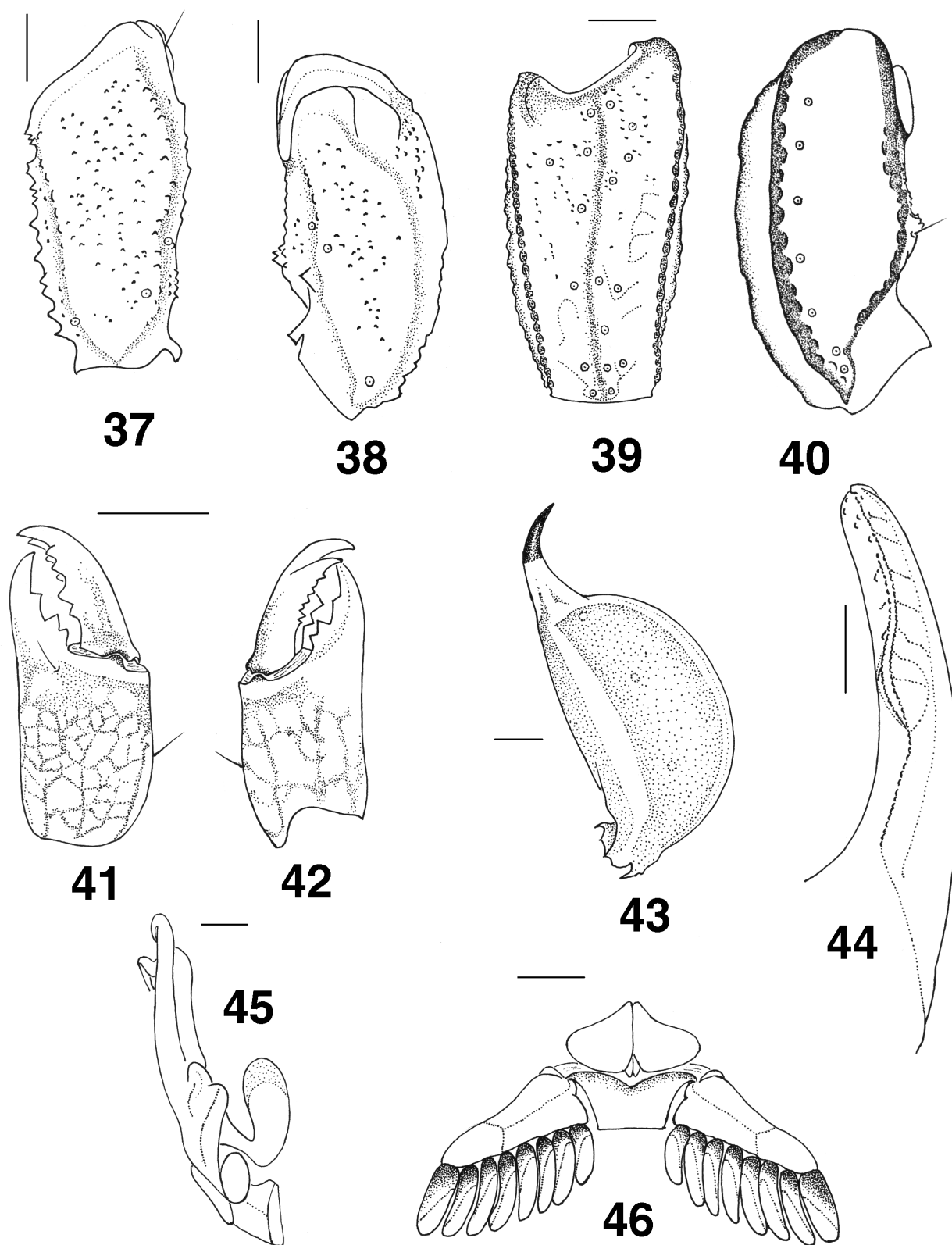


Figure 32: *Scorpions langxian* sp. n., male holotype, habitus. Total length 57.52 mm.



Figures 33–36: *Scorpiops langxian* sp. n., male holotype. Chela dorsoexternal, internal and external aspects. **36** same as **35**, female paratype. Scales = 1 mm.



Figures 37–46: *Scorpiops langxian* sp. n., male holotype. 37. Femur, dorsal aspect. 38–40. Patella, dorsal, external and ventral aspects. 41–42. Chelicera, dorsal and ventral aspects. 43. Telson, lateral aspect. 44. Dentate margin of the pedipalp chela movable finger. 45. Paraxial organ, external aspect. 46. Genital operculum and pectines. Scales = 1 mm.

all smooth; ventral median carina is strong; other carinae are vestigial or absent; tegument is granulated dorsally and punctated ventrally. Trichobothriotaxy type C (Vachon, 1974). Chela with four ventral trichobothria. Patella with 17 external and seven ventral trichobothria.

Female paratype. Coloration and morphology are very similar to that of the male holotype. Some of the segments are slightly bulkier. Pectinal tooth count 6-6. Manus is narrower than in male.

Measurements (male holotype/female paratype). Total length, 57.52/57.76. Carapace: length, 6.76/7.27; anterior width, 3.70/3.06; posterior width, 7.91/7.65. Metasomal segment I: length, 3.32/3.44; width, 3.70/3.44. Metasomal segment V: length, 8.29/7.65; width, 2.81/2.42; depth, 2.81/2.55. Vesicle: width, 3.70/2.81; depth, 3.57/2.68. Pedipalp: femur length, 5.74/5.23; width, 2.93/2.81; patella length, 5.87/5.87; width, 3.57/3.06; chela length, 7.01/7.27; width, 6.12/5.87; depth, 4.46/4.08; movable finger length, 6.89/7.01.

***Scorpiops pococki* Zhu, Qi et Lourenço, sp. n.**
(Figs. 47–61)

Diagnosis. The new species has eight trichobothria on the ventral surface of the patella (Fig. 56) and 6 or 8 pectinal teeth (Fig. 61); it also has an oval smooth region behind lateral ocular tubercles (Figs. 47 and 60). Mesosomal tergite VII with a median carina and two pairs of lateral carinae (Fig. 47).

Material. 1♂ holotype, Tibet, Gyaca district (29°08'N, 92°43'E), 22 August 2002, Ming-Sheng Zhu leg. (MHBU); paratypes: 7♀ and 4♂, same data as holotype (1♀ and 1♂ in MNHN, the others in MHBU); 1♀, Tibet, Zayü district, Xia Zayü town (28°30'N, 97°00'E), 7 August 2002, Ming-Sheng Zhu leg.; 1♂, Tibet, Nyingchi district (29°34'N, 94°30'E), 2 August 2002, Ming-Sheng Zhu leg.; 2♀, 3♂, 17 August 2002, other data same as above; 3♀, Tibet, Nêdong district (29°11'N, 91°48'E), 15 August 2002, Ming-Sheng Zhu leg.; 1♂, Tibet, Xigazê (29°16'N, 88°51'E), 7 September 2002, Ming-Sheng Zhu leg.; 3♀, Tibet, Lhasa Shi (29°39'N, 91°08'E), 23 August 2003, Feng Zhang leg. (all others in MHBU).

Etymology: Patronym in honor of Reginald Innes Pocock, who greatly contributed to scorpion science as well as other areas of zoology.

Description (based on male holotype):

Coloration: Basically reddish brown without any diffuse variegated fuscous spots. Carapace is reddish brown, and some black areas near the eyes. Tergites are dark brown. Chelicerae is unevenly dark brown and the fingers are uniformly dark reddish. Pedipalps are dark reddish-

brown. Tarsal claws are brown. Venter and sternites are yellow.

Morphology: Carapace is lustrous; anteromedian carinae are large irregularly granules; anteromedian furrow is deep, slit-shaped, lateral furrow is broad and flat; posterior median furrow is shallow, slit-shaped. Median eyes are anterior to the center of the carapace; three pairs of lateral eyes. Sternum is pentagonal and longer than wide. Tergites are almost acarinate and covered with dense finely granular; tergite I is acarinate; downwards, the median carina gradually become distinct minutely granular carinae; segment VI has a pair of marked lateral carinae; segment VII bears a median and two pairs of lateral carinae. Pectinal tooth count 8-7, fulcra absent. Sternites are smooth and shiny; segment VII has four weakly granular carinae. Metasomal segments II to V are longer than wide; segments I to V have 10-10-10-10-7 carinae; segments II-IV have a pair of weakened lateral carinae, which only occupy the posterior part; all the carinae on segments I-IV with minute serration; segment V bears ventromedian carina, which has strong serration. Vesicle is coarse and densely granular.

Pedipalps: femur with dorsal interior carina serrated; tegument is partly granular. Patella with dorsal internal, ventral internal, ventral external and external carinae, smooth; two spinoid granules present on the internal aspect, the internal-ventral spinoid granule being much larger than the internal-dorsal one; tegument smooth. Chela with dorsal marginal, external secondary, and ventral internal carinae, which are coarsely granular. Ventral median carina is strong; other carinae are vestigial or absent; tegument is granular dorsally and smooth ventrally. Trichobothriotaxy type C (Vachon, 1974). Chela with four ventral trichobothria. Patella with 17 external and eight ventral trichobothria.

Female paratype: compared with male, the finger is less flexed, pectinal tooth count 6/6. Telson is smaller than that of male.

Measurements (in mm) (male holotype/female paratype). Total length, 52.26/62.10. Carapace: length, 6.89/8.16; anterior width, 2.68/2.81; posterior width, 7.10/7.52. Metasomal segment I: length, 3.19/3.32; width, 3.57/3.57. Metasomal segment V: length, 7.65/7.65; width, 2.55/2.42; depth, 2.55/2.55. Vesicle: width, 2.81/2.93; depth, 2.93/3.06. Pedipalp: femur length, 4.97/5.87; width, 2.55/3.93; patella length, 5.10/5.74; width, 2.55/3.93; chela length, 6.76/7.27; width, 3.83/3.95; depth, 5.10/5.23; movable finger length, 5.99/6.50.

Genus *Euscorpiops* Vachon, 1980

Scorpiops (*Euscorpiops*) Vachon, 1980: 151 (in part); Tikader & Bastawade, 1983: 452 (in part); *Euscorpiops* Lourenço, 1998: 246 (in part); Fet, 2000b: 491; Soleglad & Sissom, 2001: 93; Kovařík, 2005b: 1.

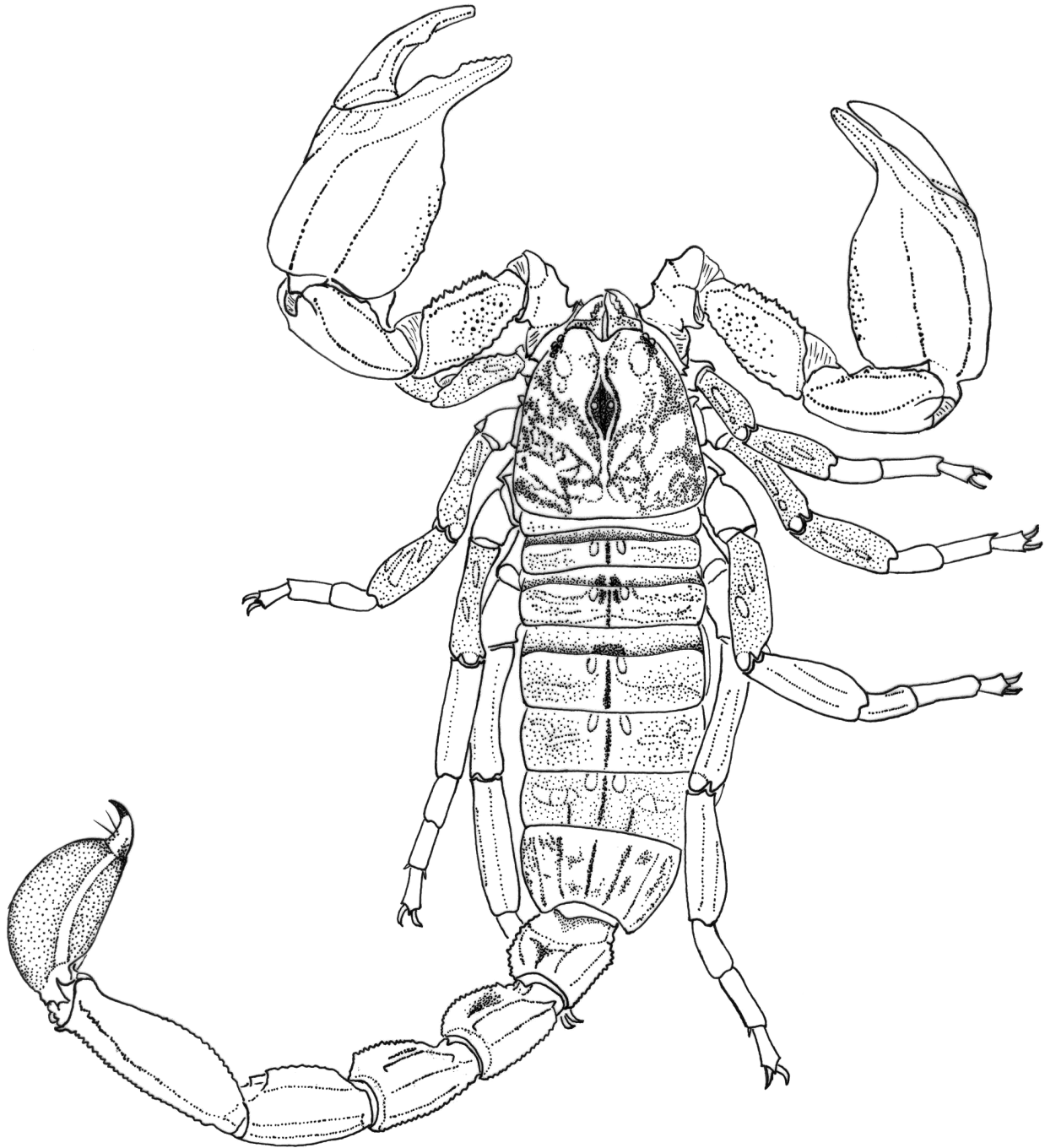
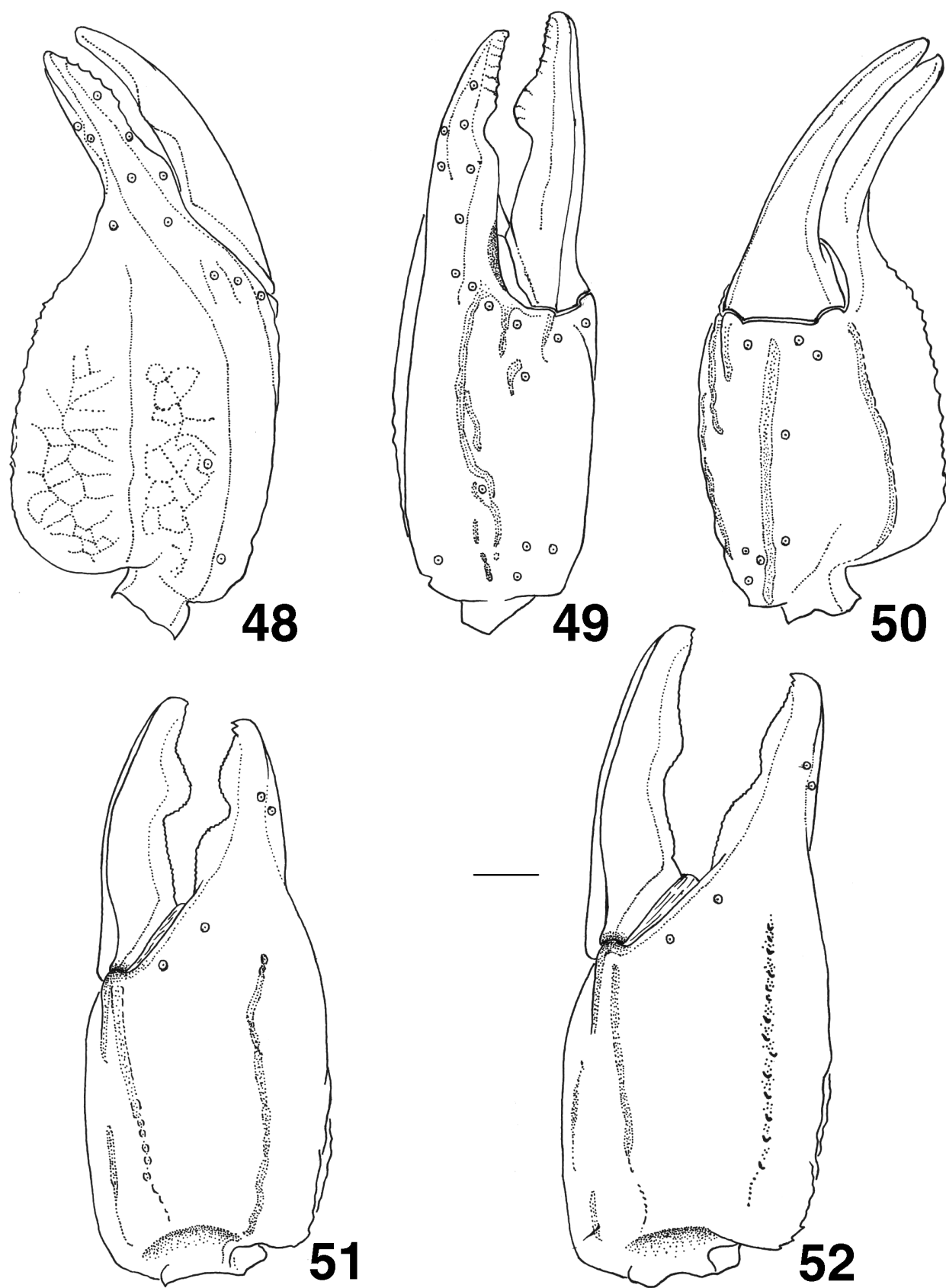


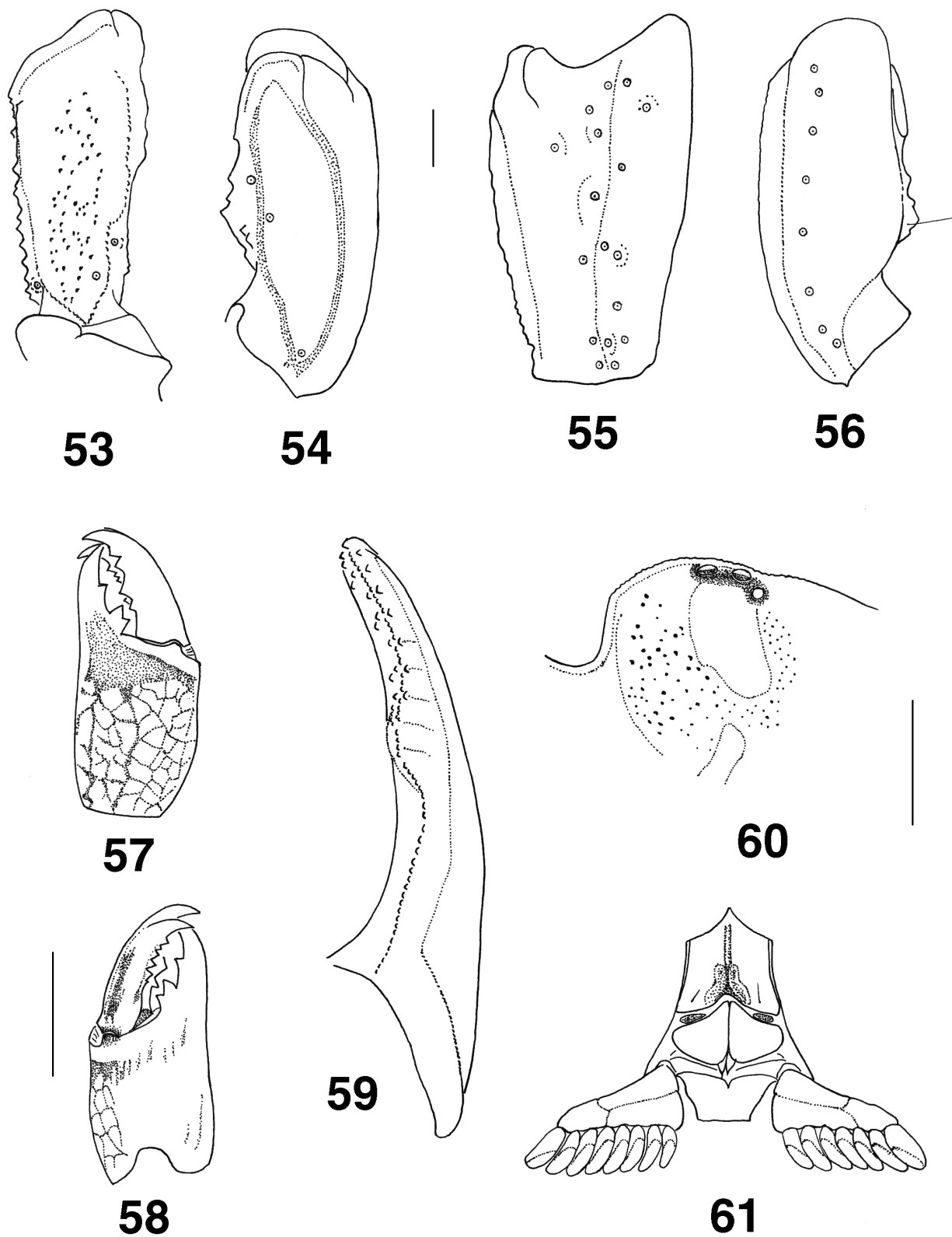
Figure 47: *Scorpiops pococki* sp. n., male holotype, habitus. Total length 52.26 mm.

Diagnosis. Trichobothrium Eb_3 on the external aspect of the chela situated distally to trichobothrium Dt . Annular ring at vesicle/aculeus juncture present. Three pairs of lateral eyes. 17-21 external trichobothria on pedipalp patella. Ventral surface of patella bears 6-18 trichobothria. Ventral surface of manus bears 4 trichobothria.

Comments. Recently, Kovařík (2005b) described a new species of this genus, *Euscorpiops novaki* Kovařík, 2005, based on a single male specimen, which is also the first species of *Euscorpiops* recorded from Tibet (Bomi, 29°52' N, 95°45' E) as well as from China. Comparison of this species' description and distribution with our ma-



Figures 48–52: *Scorpiops pococki* sp. n., male holotype. Chela, dorsoexternal, external, ventral and internal aspects. 51 same as 52, female paratype. Scale = 1 mm.



Figures 53–61: *Scorpiops pococki* sp. n., male holotype. 53. Femur, dorsal aspect. 54–56. Patella, dorsal, external and ventral aspects. 57–58. Chelicera, dorsal and ventral aspects. 59. Disposition of granulations on the dentate margin of the pedipalp chela movable finger. 60. Lateral ocular region, in detail, dorsal aspect. 61. Sternum, genital operculum and pectines. Scale = 1 mm.

terial shows that *E. novaki* differs from our new species found in Tibet.

Euscorpiops vachoni* Zhu, Qi et Lourenço, *sp. n.
(Figs. 62–77)

Diagnosis. The new species has 7 to 8 pectinal teeth (Figs. 73–74). Median ocular tubercles are smooth, with a pair of small median eyes, which are almost as large as lateral eyes.

Material. 1♂ holotype, Mengla district (21°29' N, 101°33' E), Yunnan Province, 2 August 2004, Zi-Zhong Yang, Jing Li and Cai-Xia Yuan leg. (MHBUS); Paratypes: 1♀, same data as holotype (MHBUS), 1♂, Tibet, Nyingchi district, Bayizhen town (29°41' N, 94°21' E), 3 August 2003, Feng Zhang leg. (MNHNS).

Etymology: Patronym in honor of Max Vachon, who devised the nomenclatural system for trichobothria, a landmark in the history of scorpion research.

Description (based on male holotype).

Coloration: Basically brown without any diffuse variegated fuscous spots. Carapace is dark brown, with some black area near the eyes. Tergites I–VI are dark brown, and tergite VII is pale brown; sternites are dark yellow. Metasoma: all segments are black brown and darker than tergites; vesicle is black brown with the end of the aculeus darker. Chelicerae are yellow and provided with dark brown stripes; their fingers are dark brown and gradually lighter toward the tip, which is yellow. Pedipalps are dark brown, with black carinae. Legs are brown. Venter and sternites are dark yellowish.

Morphology: Carapace is lustrous and acarinate, with dense, minute granules, of which a few granules are irregular; lateral furrow broad and flat; posterior median furrow well-expressed. Median eyes are anterior to the center of the carapace; three pairs of lateral eyes. Sternum is pentagonal, longer than wide. All tergites are acarinate, smooth and shiny with sparse small punctations except for segment VII, which has two lateral carinae. Pectinal tooth count 7–8. Sternites are smooth and shiny; segment VII with four very weak carinae. Metasoma segments II to V are longer than wide; segments I to V have 10–10–8–8–7 carinae; all carinae of segments I–IV are almost evenly granular, but inner carinae with irregular coarse granules; the tegument punctated; segment V is covered with dense, small granulation ventrally, all its carinae are weakly dentated. Vesicle is smooth, with shallow depressions.

Pedipalps: femur with dorsointernal, dorsoexternal, ventrointernal and ventroexternal crenulated carinae; patellar interior carina with irregular granules, and the external carina with scattered irregular granules; two spinoid granules present on the internal aspect, the inter-

nal-ventral spinoid granule being much larger than the internal-dorsal one; tegument punctated. Chela is short, stout and robust, covered with moderate to strong granulation; all carinae are well developed. Interior carinae are evenly granular, external ones are irregularly granular. Inner carinae are granular. Trichobothriotaxy type C (Vachon, 1974). Chela with four ventral trichobothria. Patella with 17 external and ten ventral trichobothria.

Female paratype. Coloration and morphology are very similar to that of the male holotype. Some of the segments are slightly bulkier. Pectinal tooth count 7–7. The base of the movable finger of pedipalp bears a knob matching a corresponding depression, but is not clearly expressed.

Measurements (male holotype/female paratype). Total length, 52.89/42.28. Carapace: length, 8.42/5.99; anterior width, 3.44/2.55; posterior width, 8.42/5.99. Metasomal segment I: length, 2.81/1.91; width, 3.32/2.55. Metasomal segment V: length, 6.50/4.46; width, 2.55/1.53; depth, 2.30/1.53. Vesicle: width, 2.30/1.66; depth, 2.42/1.53. Pedipalp: femur length, 7.52/5.36; width, 3.19/2.30; patella length, 6.76/4.85; width, 3.19/2.17; chela length, 8.23/6.38; width, 5.61/3.32; depth, 4.72/2.25; movable finger length, 8.16/5.61.

Euscorpiops shidian* Zhu, Qi et Lourenço, *sp. n.
(Figs. 78–93)

Diagnosis. The new species has 11 trichobothria on the ventral surface of the patella (Fig. 87). It has a pair of small median eyes, which are almost as large as lateral eyes. It has 7–8 pectinal teeth (Figs. 92 and 93). Each of the dorsal carinae on metasomal segments ends in a pair of small pointed spines (Fig. 78).

Comments. *Euscorpiops shidian* *sp. n.*, can be distinguished from other *Euscorpiops* species by the following features: (a) 11 ventral trichobothria on the patella; (b) pectinal tooth count 7; (c) body basically brown; (d) all dorsal carinae of each segment end in a pair of small pointed spines.

Material. Holotype male, Yunnan Province, Shidian district (24.43°N, E. 99.09°E), Jiucheng town, 15 June 2004, Ying-Da Zhang and Zi-Zhong Yang leg. (MHBUS); paratypes: 3 females, same data as holotype (one in MNHNS, the others in MHBUS).

Etymology. The specific name refers to Shidian district of Yunnan Province, type locality of the new species.

Description (based on male holotype):

Coloration: Basically brown without any diffuse variegated fuscous spots. Carapace is brown, with some black area near the eyes. Tergites are dark brown. Metasomal

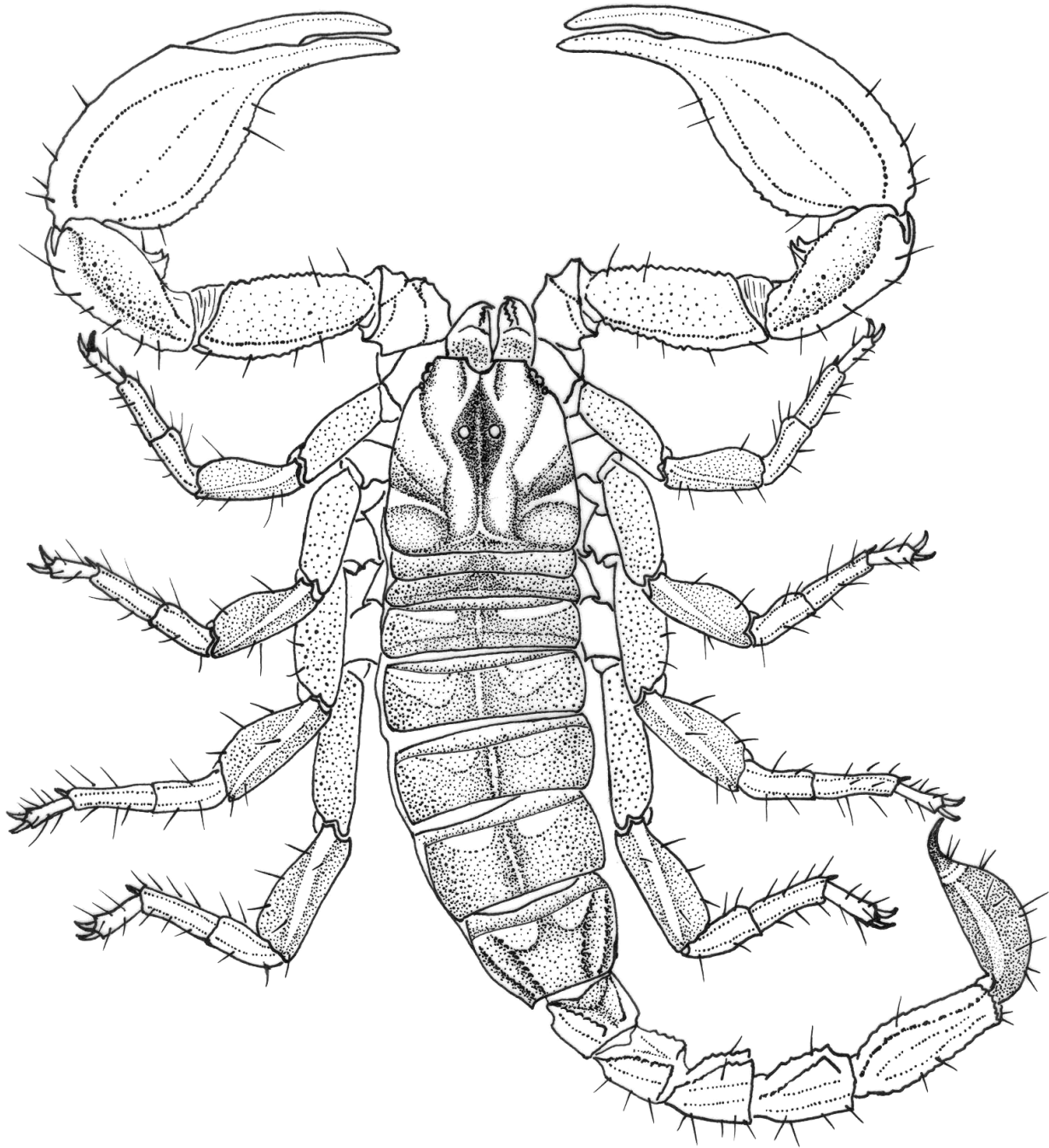


Figure 62: *Euscorpiops vachoni* sp. n., male holotype, habitus. Total length 52.9 mm.

segments are black brown; vesicle is reddish-brown, with the end of the aculeus dark reddish. Chelicerae is yellow and its fingers uniformly dark reddish. Pedipalps are dark reddish-brown. The claws of legs are light reddish-brown. Venter and sternites are yellow.

Morphology: Carapace is lustrous; lateral furrow broad and flat; posterior median furrow shallow, slit-shaped; dorsal surface is finely granular; anteromedian carinae

are irregularly granular; three pairs of lateral eyes. Median ocular tubercle is smooth and forms an obvious promontory with a pair of small median eyes, located anterior to the center of the carapace. Sternum is pentagonal and longer than wide. Tergites are almost acarinated, with sparse small punctations except for tergite VII which has a median and two pair of lateral carinae. Pectinal tooth count 7. Sternites are smooth, sternite VII has