Pholcus clavimaculatus Zhu & Song, 1999

Song, D., Zhu, M., and Chen, J. 1999. The Spiders of China. Hebei Science and Technology Publishing House. 640 pp., 4 plates.

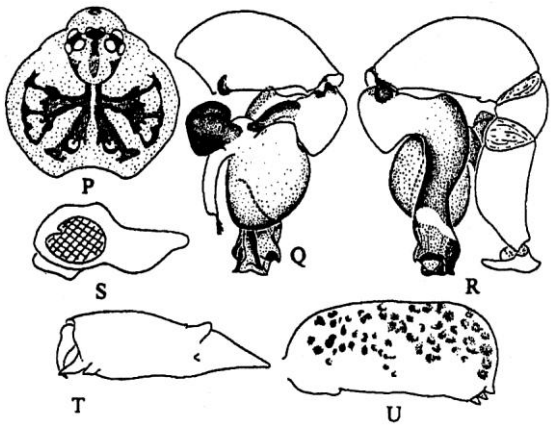
p. 57

***Pholcus clavimaculatus* Zhu *et* Song, sp. nov.** (fig. 23P—U)

Holotype: male, Suizhong County, Liaoning Province, August, 1987, by Guan, G. D.

Length of male 4.43mm. Cephalothorax 1.29 long, 1.58 wide; abdomen 3.14 long, 1.49 wide. Carapace cream-colored. Both sides of thoracic region with light brown spots. AME－AME 0.03, AME-ALE 0.05, PME-PME 0.23, PME-PME 0.03. Legs: Ⅰ 28.40 (7.70, 7.50, 11.40, 1.40), Ⅱ missing, Ⅲ 18.60 (5.30, 5.00, 7.30, 1.00), Ⅳ 23.40 (7.00, 6.70, 9.70, 1.30). Abdomen fawn, with numerous blackish brown spots on dorsum. Embolus longer; uncus nearly triangular; spur of trochanter broadest at middle. Note: This new species is closely related to *Pholcus acutulus* Paik, 1978, but differs from the latter in: 1. the appendage of palpal organ C-shaped from the retrolateral view; 2. spur of trochanter not V-shaped.

p. 61



Zhang, F. & Zhang, J. 2000. Three new species and a new discovery of female of genus *Pholcus* from Taihang Mts., China. J. Hebei Univ. 20(2): 151-156.

p. 154

棒斑幽灵蛛 ***Pholcus clavimaculatus*** **Zhu *et* Song, 1999** (雌性新发现)(图 4)

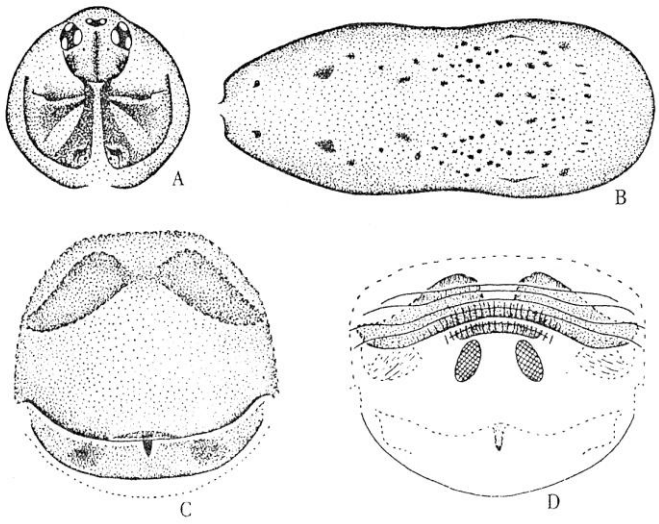


图 4 棒斑幽灵蛛 *Pholcus clavimaculatus* Zhu *et* Song, 1999

A. 雌蛛头胸部背面观; B. 雌蛛腹部背面观; C. 外雌器外面观; D. 外雌器内面观

Pholcus clavimaculatus Zhu *et* Song, 1999: 57, f. 23P – U. (in Song, Zhu & Chen, 1999)

雌蛛体长 5.00 ~ 5.63。一雌蛛体长 5.18。头胸部长 1.49, 宽 1.49; 腹部长 3.42, 宽 1.49。头部隆起, 中央具 1 棒状纵斑, 后中眼后方各有 1 小黑点, 头区侧边有灰斑。胸部黄色, 中线两侧各有 1 块黄褐色花斑。额较高(0.48), 向前倾斜, 黄褐色。从背面观察, 两眼列均后凹, 前中眼间距小于前中侧眼间距(0.26 : 0.39); 后中眼间距大于后中侧眼间距(0.20 : 0.03); 中眼域后边大于前边(0.42 : 0.22), 长小于宽(0.26 : 0.42)。前中眼 < 前侧眼 < 后中眼 < 后侧眼(0.08 : 0.14 : 0.16 : 0.17)。颚叶长而倾斜, 下唇灰褐色。胸板浅棕色, 中央有 1 个、两侧各有 3 个黄斑。步足黄色, 有棕色环形斑。步足测量: I 30.51 (7.06 + 8.51 + 12.60 + 2.34); II 21.78(5.76 + 6.21 + 8.37 + 1.44); III 15.88 (4.59 + 4.41 + 5.85 + 1.03); IV 20.92(5.76 + 5.85 + 8.01 + 1.30)。步足式: 1, 2, 4, 3。腹部长卵圆形, 黄灰色。背面具有对称的灰黑色斑点, 腹面淡灰白色, 无斑纹。纺器黄褐色。

观察标本: 15♂♂, 16♀♀, 河北省蔚县小五台山西台, 1999 – 07 – 10, 海拔 1 200 ~ 1 300 m, 张锋、张俊霞采; 13♂♂, 19♀♀, 河北省蔚县小五台林场, 1998 – 07 – 03, 海拔 1 200 m; 张锋、张继舫采。

致谢: 作者对导师朱明生教授和宋大祥院士的悉心指导与帮助表示衷心感谢。

p. 156

Pholcus clavimaculatus **Zhu *et* Song, 1999 (new discovery of female)** (fig. 4)

Female: Total length of bodies 5.00 ~ 5.63. A specimen measured, total body length 5.18. Cephalothorax 1.49 long, 1.49 wide; abdomen 3.42 long, 1.49 wide.

Material: 15♂♂, 16♀♀, Xiaowutai Mt., Yu County, Hebei Province, July 10, 1999, alt. 1 200 ~ 1 300 m, collected by Zhang Feng and Zhang Junxia; 13♂♂, 19♀♀. Xiaowutai Mt., Yu County, Hebei Province, July 3, 1998, alt. 1 200 m, collected by Zhang Feng and Zhang Jifang.

Zhang, F., Zhu, M.S. 2009. A review of the genus *Pholcus* (Araneae: Pholcidae) from China. Zootaxa 2037: 1-114.

***Pholcus clavimaculatus* Zhu & Song, 1999**
(Figs. 6–7)

Pholcus clavimaculatus Zhu & Song, in Song, Zhu & Chen 1999: 57, f. 23P–U. Zhang & Zhang, 2000: 154, 156, f 4A–D.

Diagnosis. Among its close relatives (see remark of *P. alloctospilus*) this species is very similar to *P. beijingensis* and *P. triangulatus* in the shapes of the palpal bulb and epigynum, all without appendices of palpal bulb (Fig. 6G) and with knob-shaped epigynal apophysis (Fig. 6A). *P. clavimaculatus* can be distinguished from the latter two by the shape of tip of the procursus (Fig. 7F); by the shape of the trochanter (Fig. 6C); by the shape of the sclerotized arch of the epigynum in dorsal view (Fig. 6B); from *P. triangulatus*

also by the pair of cheliceral apophyses proximocentrally; from *P. beijingensis* also by the nearly round uncus (Fig. 6G) and by the shorter ventral apophysis of the trochanter (Figs. 6H).

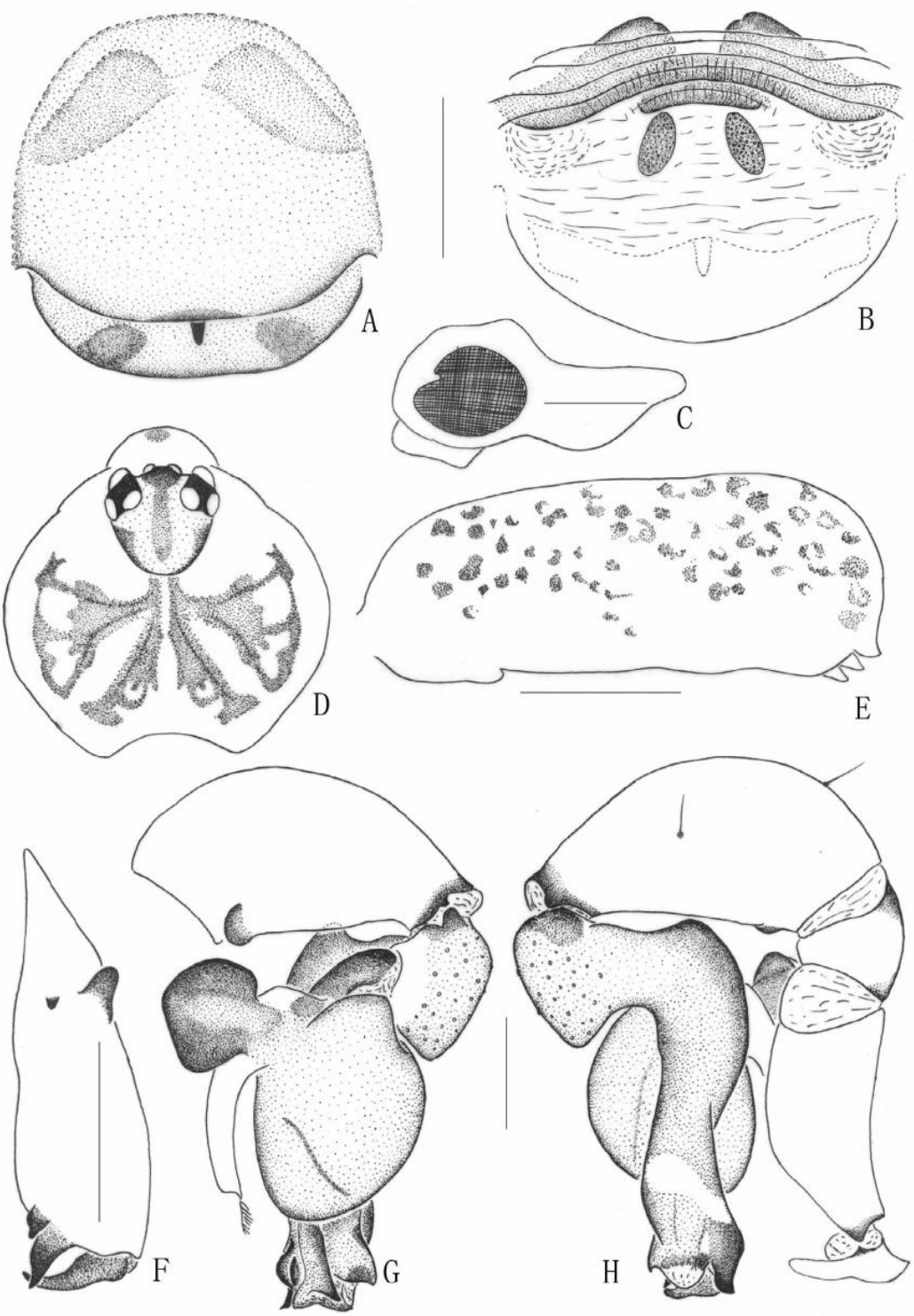


FIGURE 6. *Pholcus clavimaculatus* Zhu & Song, 1999 (illustrations C–H, modified from Song *et al*. 1999, and A, B modified from Zhang & Zhang, 2000). A. epigynum, ventral view. B. same, dorsal view. C. trochanter of male left palp, retrolaterodorsal view. D. male prosoma, dorsal view. E. male opisthosoma, lateral view. F. male left chelicera, frontal view. G. left palp, prolateral view. H. same, retrolateral view. Scale lines: 1.0mm (D, E), 0.5mm (A, B, F–H), 0.2mm (C).

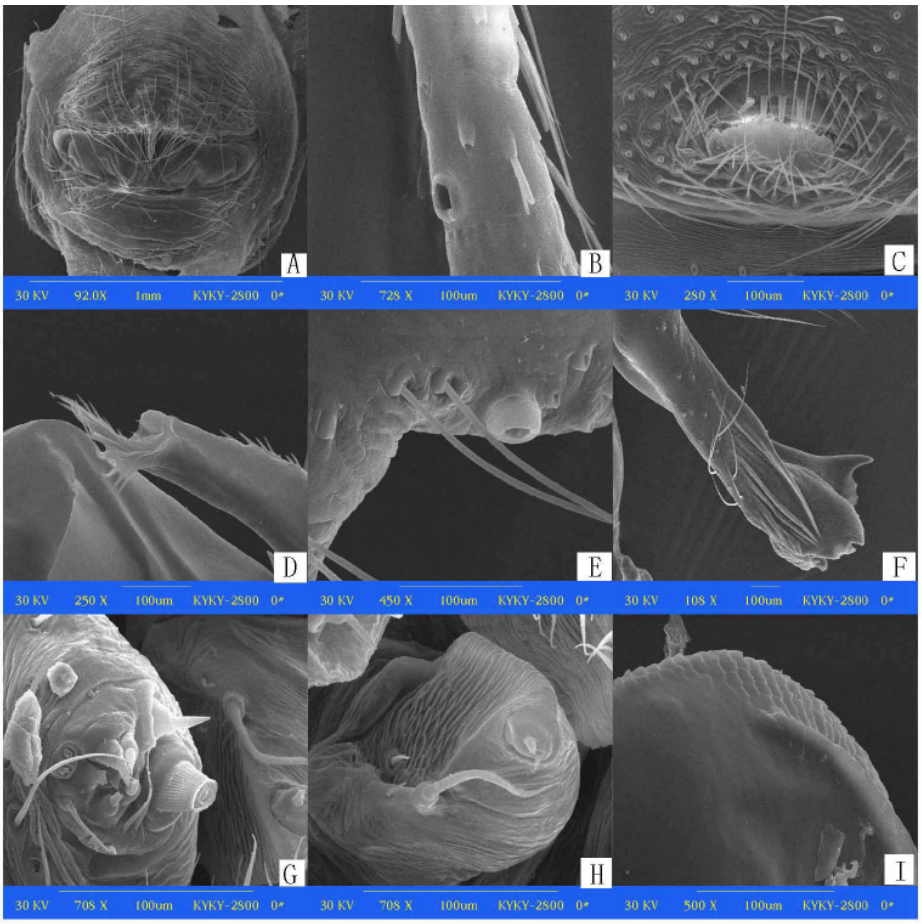


FIGURE 7. *Pholcus clavimaculatus* Zhu & Song, 1999. A. epigynum, ventral view. B. pseudosegmentation on female tarsus 1. C. male gonopore, showing four epiandrous spigots. D. tip of embolus. E. male palpal tarsal organ. F. male left procursus, retrolateral view. G. male ALS, with several piriform gland spigots. H. male PMS, with two spigots. I. part of bulb uncus, showing numerous small teeth.

Redescription. Male (holotype), total length 4.4: cephalothorax 1.3 long, 1.6 wide; abdomen 3.1 long, 1.5 wide. Leg I: 28.4 (7.7+0.6+6.9+11.4+1.4), tibia II: 5.4, tibia III: 4.3, tibia IV: 6.2; Tibia I L/D: 41. Prosoma shape as in Fig. 6D. Carapace short, broad and almost circular, ochre, with pair of brown marks broadly connecting to ocular area. Cephalic region raised, with brown stripe centrally, ocular area dark yellow. Clypeus 0.46, unmodified, slightly ochre, without yellow marks. Distance AME–AME 0.03. Diameter AME 0.08, ALE 0.14, PME 0.12, PLE 0.13. Chelicerae as in Fig. 6F, with pair of black serrated apophyses distally, pair of unsclerotized thumb-shaped apophyses proximolaterally and pair of small unsclerotized rounded apophyses proximocentrally. Labium light yellow. Endites gray. Sternum yellow, without marks. Femora, patellae and tibiae ochre, with dark rings, metatarsi and tarsi brown. Abdomen cylindrical, pale ochre, dorsum with numerous brown patterns as in Fig. 6E. Venter pale brown. Male gonopore with four epiandrous spigots as in Fig. 7C. Male ALS with six piriform gland spigots as in Fig. 7G, and PMS with two spigots as in Fig. 7H. Palps as in Figs. 6G and 6H, bulb with a mushroom-shaped uncus with numerous small teeth (Fig. 7I) and a long embolus, without appendix. Procursus as in Fig. 7F. Palpal tarsal organ capsulate as in Fig. 7E .

Variation. The color of specimens from Mt. Xiaowutai is lighter than that of the holotype.

Female: in general very similar to male. One female (Mt. Xiaowutai) total length 4.9: cephalothorax 1.5 long, 1.5 wide; abdomen 3.4 long, 1.5 wide. Tibia I 7.9. Distance AME–AME 0.04. Diameter AME 0.08, ALE 0.14, PME 0.13, PLE 0.15. Epigynum roughly circular as in Figs. 6A and 7A, with a small, triangular

p. 23

apophysis overlapping the gonopore. Dorsal view as in Fig. 6B, with a centrally-divided sclerotized arch anteriorly and a pair of oval pore plates.

Distribution. Known from several localities in northern China.

Material examined. CHINA: **Liaoning**: Suizhong County, August 26, 1987, leg. J. D. Guan, male holotype (MHBU). **Hebei**: Yu County, Mt. Xiaowutai, July 12, 1998, leg. F. Zhang, 5♂, 6♀ (MHBU); July 10, 1999, leg. F. Zhang, 11♂, 18♀ (MHBU); July 13, 2002, leg. F. Zhang, 1♂, 5♀ (MHBU); August 20, 2005, leg. F. Zhang, 23♂, 44♀ (MHBU); July 6, 2006, leg. F. Zhang, 30♂, 35♀ (MHBU); Zhuolu County, Yangjiaping Village, July 6, 2004, leg. F. Zhang, 10♂, 7♀ (MHBU).

Huber, B. A. 2011. Revision and cladistic analysis of *Pholcus* and closely related taxa (Araneae, Pholcidae). Bonner zool. Monographien 58: 1-510.

p. 447

2155. *Ph. clavi-maculatus*, male, dorsal view.

p. 462

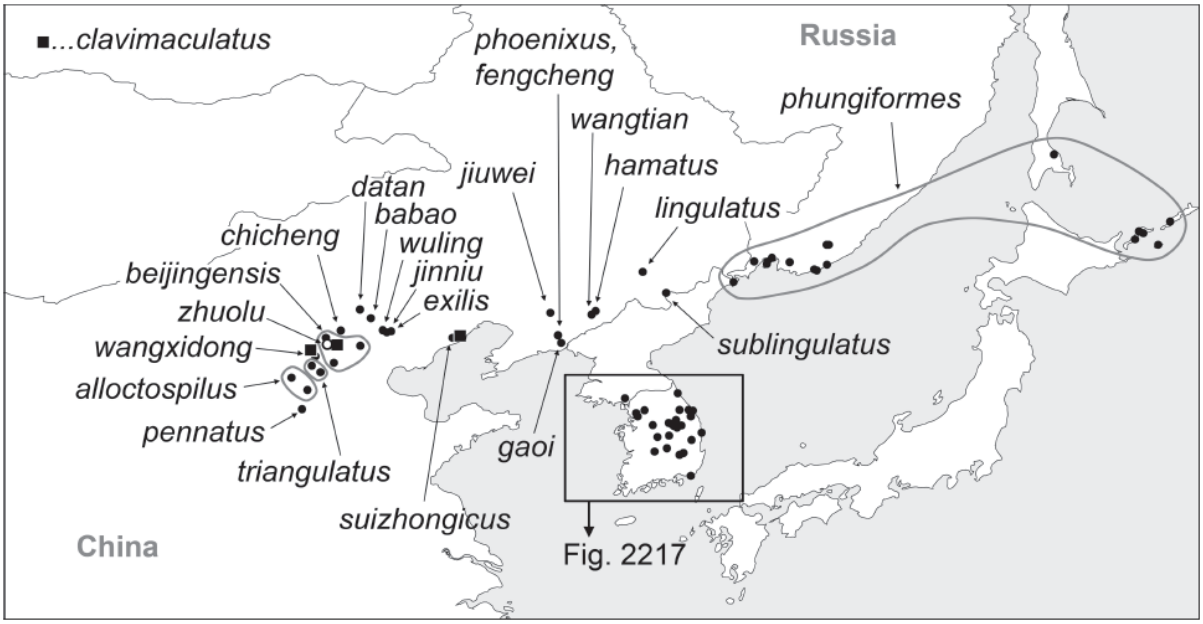


FIG. 2216. Known distribution of the *Pholcus phungiformes* species group. For Korean species, see Fig. 2217.

Pholcus clavimaculatus Zhu & Song, 1999

Figs. 2155, 2229-2232

Pholcus clavimaculatus Zhu & Song in Song *et al.* 1999: 57, figs. 23p-u. Zhang & Zhang 2000: 154, 156, figs. 4a-d. Zhang & Zhu 2009a: 20-23, figs. 6a-h (copied from Song *et al.* 1999 and Zhang & Zhang 2000), 7a-i.

Type. Male holotype from China, Liaoning Prov., Suizhong County [~40°20'N, 120°10'E], 26. viii.1987 (J. Guan), in MHBU, not examined.

Diagnosis. Distinguished from congeners without appendix by distinctive shapes of procursus (Figs. 2230, 2232; distal elements) and female genitalia (see figures in Zhang & Zhang 2000, Zhang & Zhu 2009a).

Male (Mt. Xiaowutai). Total body length 5.3, carapace width 1.7. Femur 1: 13.3, other segments missing, tibia 2 missing, tibia 3: 5.9, tibia 4: 7.9. Habitus as in Fig. 2155. Carapace pale ochre-yellow with distinct brown pattern, ocular area with lateral and median brown marks, clypeus slightly darkened, sternum light brown, darker posteriorly and at margins, lighter behind labium, legs pale ochre-yellow, indistinct darker rings on femora subdistally, in patella area, and on tibiae subdistally, some marks proximo-ventrally on femora, abdomen gray, many dark spots dorsally and laterally, ventrally only genital area brown. Distance PME-PME 250 µm, diameter PME 135 µm, distance PME-ALE 55 µm, distance AME-AME 60 µm, diameter AME 95 µm. Ocular area moderately elevated, few stronger hairs posteriorly. No thoracic furrow; clypeus unmodified. Chelicerae as in Fig. 2231, distal apophyses apparently without modified hairs, with frontal and lateral apophyses proximally (both pairs of frontal apophyses longer than appears in Fig. 2231). Sternum wider than long (1.20/0.85), unmodified. Palps as in Figs. 2229 and 2230, coxa unmodified, trochanter with retrolatero-ventral apophysis, femur widening ventro-distally, otherwise barely modified, tibia with sclerotized area slightly projecting on prolatero-ventral side, procursus with distinctive distal sclerites, with ventral sclerite similar to *Ph. pennatus*, with two dorsal spines, bulb with rather small uncus, weakly sclerotized embolus, without appendix (reduced to small transparent projection). Legs without spines and curved hairs, few vertical hairs (most hairs missing). Gonopore with four epiandrous spigots, anterior lateral spinnerets with eight spigots each (Zhang & Zhu 2009a).

Note. Zhang & Zhu (2009a) report a much shorter tibia 2 than tibia 4 (for the holotype) even though tibia 2 was said to be missing in the holotype in the original description. Such a relationship would be exceptional in this species group and is thus doubted.

Female. In general similar to male, triads closer together (distance PME-PME 185 µm); tibia 1: 7.7; epigynum missing in specimen examined.

Distribution. Known from Liaoning and Hebei Provinces, China (Zhang & Zhu 2009a) (Fig. 2216).

Material examined. CHINA: *Hebei Prov.*: Yu County, Mt. Xiaowutai [~39°36'N, 114°48'E], 10.vii.1999 (F. Zhang), 1♂1♀ in MHBU.

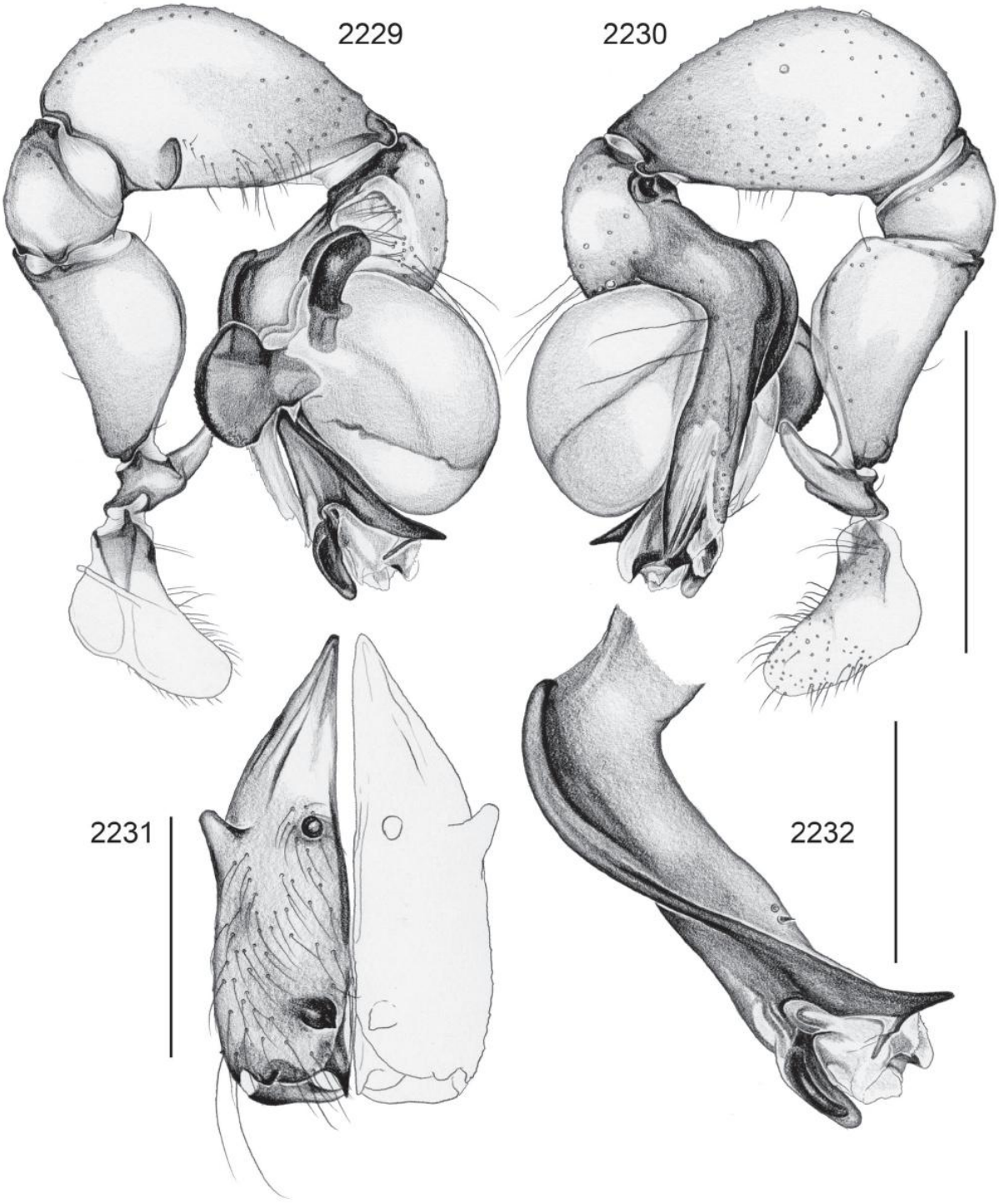


FIG. 2229-2232. *Pholcus clavimaculatus*. 2229, 2230. Left male palp, prolateral and retrolateral views. 2231. Male chelicerae, frontal view. 2232. Left procursus, prolateral view. Scale lines: 1.0 (2229, 2230), 0.5 (2231, 2232).