Pholcus clavatus Schenkel, 1936

Schenkel, E. 1936. Schwedisch-chinesische wissenschaftliche Expedition nach den nordwestlichen Provinzen Chinas, unter Leitung von Dr. Sven Hedin und Prof. Sü Ping-chang. Araneae gesammelt vom schwedischen Arzt der Expedition Dr. David Hummel 1927-1930. Ark. Zool. 29(A1): 1-314.

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Pholcus clavatus n. sp.

Die Statur ist derjenigen des *Ph. opilionoïdes* (Schrank) ähnlich, aber die Beine weisen zahlreiche, schmale, braune Ringe auf: 5 am Femur, 1 an der Patella, 5 an der Tibia (der basale ist ein Doppelring) und 1 basaler am Metatars. Der Cephalothorax besitzt zwar auch die beiden fast parallelen dunkleren Längsbinden auf dem Brustteil, aber jede derselben sendet nach aussen 2 fast dreieckige, blassere Verbreiterungen ans, von denen nach aussen dunklere Radiärstriche ausstrahlen, die nahe dem Seitenrand in kurzen Querstrichelchen (Nagelköpfen!) enden; jederseits strahlen 2 solcher »Nägel» von der vordern und 1 von der hintern Verbreitung aus. Am blassen Brustschild ziehen sich jederseits 3 dünne, braune Radiärstrahlen vom Seitenrand etwas mehr als halbwegs gegen die Mitte; diese ist ungezeichnet; braun ist auch das hinterste Ende. Der Hinterleib ist grau und hat längs der Mitte 2 Reihen schwarzer Punkte; die beiden hintersten Paare sind am deutlichsten, strichförmig, die letzten sind die längsten und befinden sich auf $^2/_3$ der Hinterleibslänge; dieser Anteil der Zeichnung erinnert an *Anyphaena accentuata*.

Fig. 8. *Pholcus clavatus* n. sp. Cephalothorax.

Heimat: Kansu. K8: 1 Juv.

Zhu, C., Wang, F. 1963. Chinese Pholcidae and a new species. J. Jilin Med. Univ. 5(3): 461-466, pl. 1-2.

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3. 中国幽灵蛛

P. sinicus (新种)

(图版 II 图 11—17)

♀: 体長4.4—5.4毫米; 头胸部長 1.4—1.55 毫米; 步足 Ⅰ＞Ⅳ＞Ⅱ＞Ⅲ, 测量了一个标本, 其步足長度如下:

Ⅰ: 33.40毫米 (8.3+0.73+8.40+13.63+2.34);
Ⅱ: 23.38毫米 (6.38+0.7+5.9+9.1+1.3);
Ⅲ: 17.34毫米 (5.0+0.63+4.24+6.5+0.97);
Ⅳ: 24.30毫米 (7.0+0.66+6.14+9.2+1.3)。

体形似長跷幽灵蛛 (P.opilionoides)。头部隆突。头胸部背面黄棕色, 上有兩个对称的、深棕色斑, 二斑之前端中央或連或不相連結; 頸溝深棕色。腹部圓筒狀, 腹部背面有黑色小型斑点, 明显地排列为左右对称的2組, 后端者較前端斑点稍大。胸板梯形, 后緣近于横直, 不突出于二Ⅳ基节之間; 胸板为深棕色, 中央有1淡色縱斑, 每側

边緣各有3个窄長的淡色斑。

8眼，均位于隆起之眼丘上，除前中眼外，其他6眼排成2个三角形；8眼中，以前中眼为最小。自背面观察，前眼列后凹，后眼列稍后凹。前中眼間距等于或小于前中側眼間距，后中眼間距大于后中側眼間距，后中眼直徑等于或小于后中眼間距之半。中眼区梯形，寬大于長，后緣大于前緣。

螯肢后齿緣有1齿，螯肢前面光滑无齿。步足棕色，上有深棕色环紋。步足各节无刺；跗节3爪，成对爪各有8—11个櫛齿，第三爪有1櫛齿。

生殖孔半圓形，深棕色；前端中央向前突出，并有一短棒狀体，后緣兩側各有1卵圓形黑棕色斑。

♂：体長5.0毫米；头胸部長1.4—1.6毫米；步足Ⅰ＞Ⅳ＞Ⅱ＞Ⅲ，測量了一个标本，其步足長度如下：

Ⅰ：44.36毫米 (10.84+0.79+11.28+18.7+2.75)；
Ⅱ：30.00毫米 (8.53+0.79+6.67+12.36+1.65)；
Ⅲ：22.03毫米 (6.43+0.73+4.95+8.75+1.17)；
Ⅳ：30.21毫米 (8.68+0.74+7.74+11.6+1.45)。

体形及結構似♀体。螯肢后齿緣有1齿，此外，于螯肢前面外緣靠近螯肢全長 $^1/_2$ 部位有1齿，其尖端朝向螯肢基部；此齿之內側尚有1隆起；內緣靠近后齿緣齿之后方另有1齿，其尖端朝向螯肢之游离端。步足各节无刺。

在陝西华山石窟中找到，兩性均在石窟頂壁上結不規則網；石窟高約1.5公尺，寬約3公尺，深約2公尺。

本新种体形与長跷幽灵蛛相似，但二者除生殖孔及触肢器官均不相同之外，头胸部背面斑紋亦全然不同。

本新种与 Schenkel, E. (1936) 根据自甘肅宕昌采得之1幼蛛确定的新种——舌狀幽灵蛛 (P.clavatus Schenkel 1936.) 亦不相同，二者有下列主要区别：

1. 本新种胸板深棕色，中央有1淡色縱斑，每側边緣各有3个窄長的淡色斑；而舌狀幽灵蛛之胸板則为“淡色，每边有3个細而呈棕色的放射綫条，此放射綫条并不达到胸板边緣，仅达到中間部分”；

2. 头胸部背面之斑紋亦有所不同，舌狀幽灵蛛“头胸部有2个平行而深色的縱帶，每一縱帶向外伸出兩个三角形淡色而寬的条紋，此条紋向每側伸出2放射狀釘形条紋；縱帶后面向每側伸出1个釘形条紋”；本新种头胸部背面斑紋如图，外緣联成半圓形；

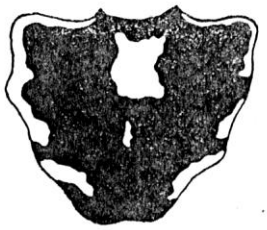
3. 腹部斑点亦不相同，舌狀幽灵蛛“腹部中央有2列黑色斑点，最后一对斑点很显明地呈条紋狀，这一条紋最長可达到后腹部的 $^2/_3$ 部位”；而本新种腹部背面斑点均系圓形或近于圓形，明显地排列为2組，占据了整个腹部背面，腹部后面的斑点仅稍大而已，不呈条紋狀。

模式标本产地：陝西华山（♀6、♂7，1957年6月1日，朱傳典，3024号标本）。

模式标本保存于吉林医科大学生物教研室。

Pl. 2

11



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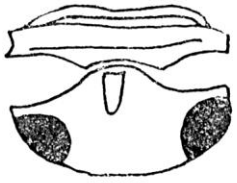

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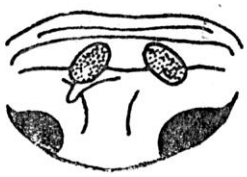

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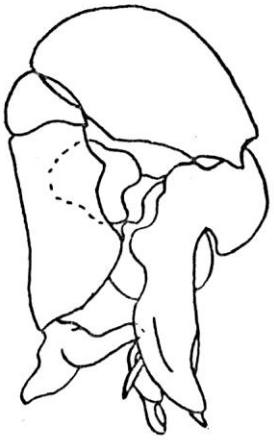

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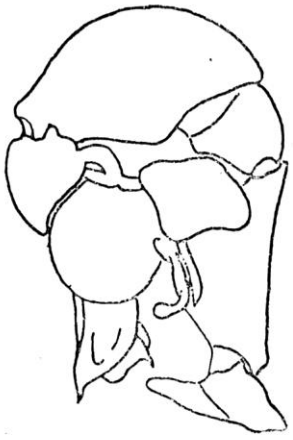

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中国幽灵蛛（Pholcus sinicus）新种

图 11　头胸部背面之斑纹；图 12　胸板之斑纹；图 13　雄性螯肢前面；图 14　生殖鬲外面；图 15　生殖鬲内面；图 16　触肢器官外面；图 17　触肢器官内面。

Hu, J-L. 1984. The Chinese spiders collected from the fields and forests. Tianjin Press Sci. Technol. Pp. 1-482; pl. 1-16.

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中国幽灵蛛 *Pholcus sinensis* Zhu *et* Wang, 1963

雌蛛体长4.4—5.4毫米。体形似长跷幽灵蛛。头部隆突。头胸部背面黄棕色，并有两个对称的深棕色斑，两斑之前端中央或连或不相连结；颈沟深棕色。8眼均位于隆起之眼丘上，除前中眼外，其他 6 眼排成 2 个三角形，以前中眼为最小。自背面观察，前眼列后曲；后眼列稍后曲。前中眼间距等于或小于前中侧眼间距，后中眼间距大于后中侧眼间距，后中眼直径等于或小于后中眼间距之半。中眼区梯形，宽大于长，前边小于后边。后齿堤有 1 齿。胸板梯形，后缘近于横直，呈深棕色，中央有一淡色纵斑，每侧缘各有 3 个窄长的淡色斑。步

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足棕色，具深棕色环纹，各节无刺，跗节具 3 爪，上爪各有 8 —11个栉齿，下爪有 1 齿。腹部圆筒状，其背面有小型黑色斑点，明显地排列成左右对称的 2 组，而后端的斑点稍大。外雌器（图72，1—2）半圆形，深棕色，前端中央向前突出，并有一短棒状体，后缘两侧各一卵圆形黑斑。

雄蛛体长 5 毫米。体形及结构似雌蛛。后齿堤 1 齿，此外，于螯肢前面外缘靠近螯肢全长二分之一部位有 1 齿，其尖端朝向螯肢基部；此齿之内侧尚有一隆起；内缘靠近后齿堤之后方另有一齿，其尖端朝向螯肢之游离端。步足各节无刺。触肢器如图72，3 所示。

分布：陕西（华山）、辽宁。

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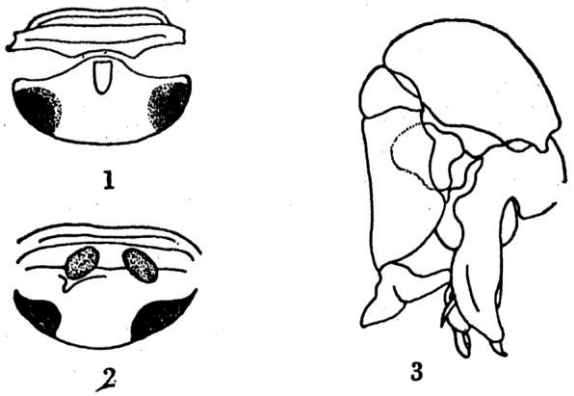

图72 中国幽灵蛛*Pholcus sinensis*
1.雌蛛外雌器之外形 2.同前，内部构造 3.雄蛛触肢器之侧面观（仿朱传典等）

Zhu, M.S., Tu, H.S., Shi, J.G. 1986. Spiders of the genus *Pholcus* (Araneae, Pholcidae) from Shanxi and Shanxi Provinces, China, with description of a new species. J. Hebei Normal Univ. 1986(2): 118-124.

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3、中国幽灵蛛Pholcus sinicus Zhu et Wang, 1963.（图3）

P. sinicus Zhu et Wang. 1963: 464—465, figs. 11—17.

雌蛛体长4.7毫米。头胸部黄褐色，背面有两个左右对称的棕色斑纹，头部后端的眼区后亦有1棒状棕色斑，头部隆起，8个眼均位于隆起上，除前中眼外，其它6个眼组成左右两个三角形。后眼列稍长于前眼列，前中眼最小。前中眼间距略等于前中侧眼间距。中眼区梯形，后边>前边。螯肢有1后堤齿。胸板近似半圆形，棕色，中央有1淡色斑，边缘亦为淡色。步足黄褐色，有深色环状纹。腹部圆筒形或卵圆形，黄灰色，背面散布黑褐色斑点。外雌器外面观和内面观如图。

雄蛛体长4.3毫米左右。体色斑纹与雌蛛相似。后齿堤端部具1齿，螯肢前面有3

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个齿状突，靠近螯牙的1个近似两个齿。触肢器如图。

已知分布：陕西、辽宁。

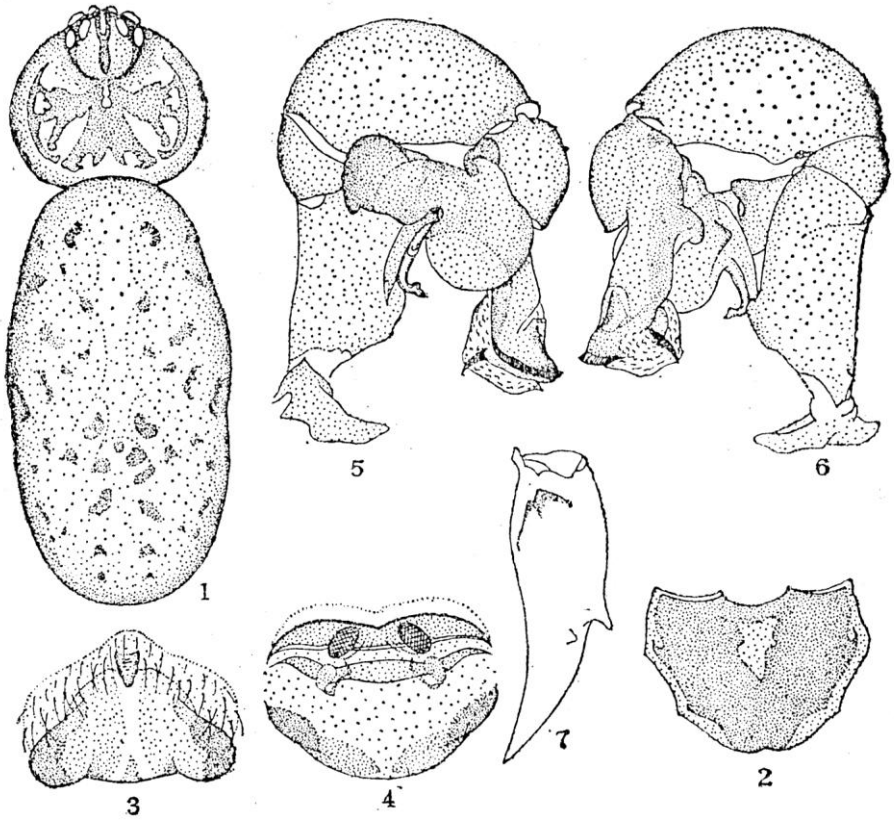

图3 中国幽灵蛛Pholcus sinicus

1、雌蛛背面观 2、胸板 3外雌器外面观 4、同前，内面观
5雄蛛左触肢器外侧观 6、同前，内侧观 7、雄左螯肢

Chen, Z., Zhang, Z. 1991. Fauna of Zhejiang. Araneida. Zhejiang Sci. Tech. Publ. Pp. 1-356; pl. 1-8.

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中国幽灵蛛

Pholcus sinensis Zhu et Wang （图66）

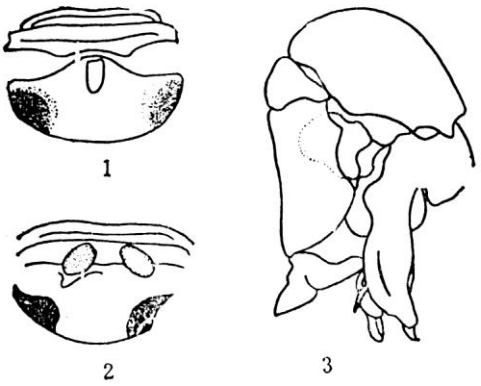

图66 中国幽灵蛛 *Pholcus sinensis* Zhu et Wang
1.外雌器外面观 2.外雌器内面观 3.雄蛛触肢器侧面观

形态 雌蛛体长5毫米左右。头胸部背面棕黄色，有2个对称的棕色斑，两斑的前端中央，有的相连，有的互不连结。头部隆起，颈沟深棕色。8眼均位于隆起的眼丘上，前中眼最小，其余6眼排成2个三角形。从背面观，前眼列后曲；后眼列略后曲。前中眼间距等于或小于前中侧眼间距，后中眼间距大于后中侧眼间距，后中眼直径等于或小于后中眼间距之半。螯肢后齿堤1齿。胸板梯形，后缘近乎横直，呈深棕色，中央有一淡色棕斑，两侧缘各有3个窄长淡色斑。步足棕色，有环纹，跗节3爪，上爪

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各有8～11个栉齿，下爪1齿。

腹部似圆筒状，背面布有小的黑色斑点，并排列成左右对称的2组，其后方的斑点稍大。外雌器半圆形，深棕色，前端中央向前突出，并有1短棒状体，后缘两侧各有一卵圆形黑斑。

雄蛛体长4.5～5.0毫米。形似雌蛛。螯肢后齿堤1齿，此外，在螯肢前面外缘近螯肢全长1/2处有1齿，其尖端朝向螯肢基部，此齿内侧还有1隆起；在内缘靠近后齿堤之后方另有1齿，其尖端朝向螯肢之游离端。

分布 省内：丽水。国内还分布于辽宁、安徽、陕西。

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

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***Pholcus clavatus* Schenkel**, 1936
Pholcus clavatus Schenkel, 1936: 32, f. 8; Zhang, 1987: 59, f. 43
Pholcus sinica Zhu & Wang, 1963; 464, f. 11—17; Zhu, Tu & Shi, 1986: 10, f. 3.
Pholcus sinensis: Hu, 1984: 78, f. 72; Chen & Zhang, 1991: 75, f. 66 (lapsus for *Ph. sinicus*).
Distribution: Zhejiang, Shaanxi, Hebei, Liaoning

Marusik, Y. M., Koponen, S. 2000. New data on spiders (Aranei) from the Maritime Province, Russian Far East. Arthropoda Selecta 9(1): 55-68.

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Pholcus zichyi Kulczyński, 1901

Pholcus zichyi Kulczyński, 1901: 326, Table XII, figs. 3–4;
Pholcus crypticolens Bösenberg et Strand, 1906: 127, **syn.n.;**
Pholcus clavatus Schenkel, 1936: 32, f. 8, **possibly syn.n.**;

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

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***Pholcus clavatus* Schenkel, 1936**
(Fig. 5)

Pholcus clavatus Schenkel 1936: 32, f. 8. Zhang 1987: 59, f. 43.1–6. Song Zhu & Chen 1999: 57. Hu 2001: 85, f. 9.1–6. Song, Zhu & Chen 2001: 75, f. 32A–G.
Pholcus sinicus Zhu & Wang 1963: 464, f. 11–17. Zhu, Tu & Shi 1986: 120, f. 3.1–7.
Pholcus sinensis Hu 1984: 78, f. 72.1–3. Chen & Zhang 1991: 75, f. 66.1–3 (lapsus for *P. sinicus*).

Diagnosis. Very similar to *P. qinghaiensis*, but can be distinguished from it by the appendix with a longer branch centrally (Fig. 5E); by the tip shape of the procursus (Figs. 5H–J); and by the longer ventral apophysis of the trochanter (Fig. 5I).

Redescription. Male (Mt. Huashan), body length: 5.2–5.7, one male total length 5.7: cephalothorax 1.5, long, 1.7 wide; abdomen 4.2 long, 1.8 wide. Leg I: 43.5 (10.4+0.6+10.9+18.7+2.9), tibia II: 7.7, tibia III: 6.0, tibia IV: 7.1; Tibia I L/D: 63. Prosoma shape as in Fig. 5C. Carapace short, broad and almost circular, ochre, with pair of brown mark broadly connecting to ocular area. Cephalic region raised, clothed with short, erect and black hairs, without brown slender marks centrally, ocular area dark yellow. Clypeus 0.56, unmodified, slightly ochre, with yellow marks. Eyes ringed with black. Distance AME–AME 0.07. Diameter AME 0.10, ALE 0.18, PME 0.15, PLE 0.16. Chelicerae as in Fig. 5F, 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 dark ochre, with a central pale brown bar at the front margin and three pairs of distinct marginal pale spots on each side as in Fig. 5G. Femora, patellae and tibiae ochre, with dark rings, metatarsi and tarsi brown. Abdomen cylindrical, pale ochre, dorsum with numerous brown spots as in Fig. 5C. Venter pale brown. Palps as in Figs. 5I and 5J, bulb with a broad uncus, elbow-shaped appendix with a pointed branch centrally, trochanter with a long ventral apophysis. Procursus as in Fig. 5H. Tarsal organ capsulate.

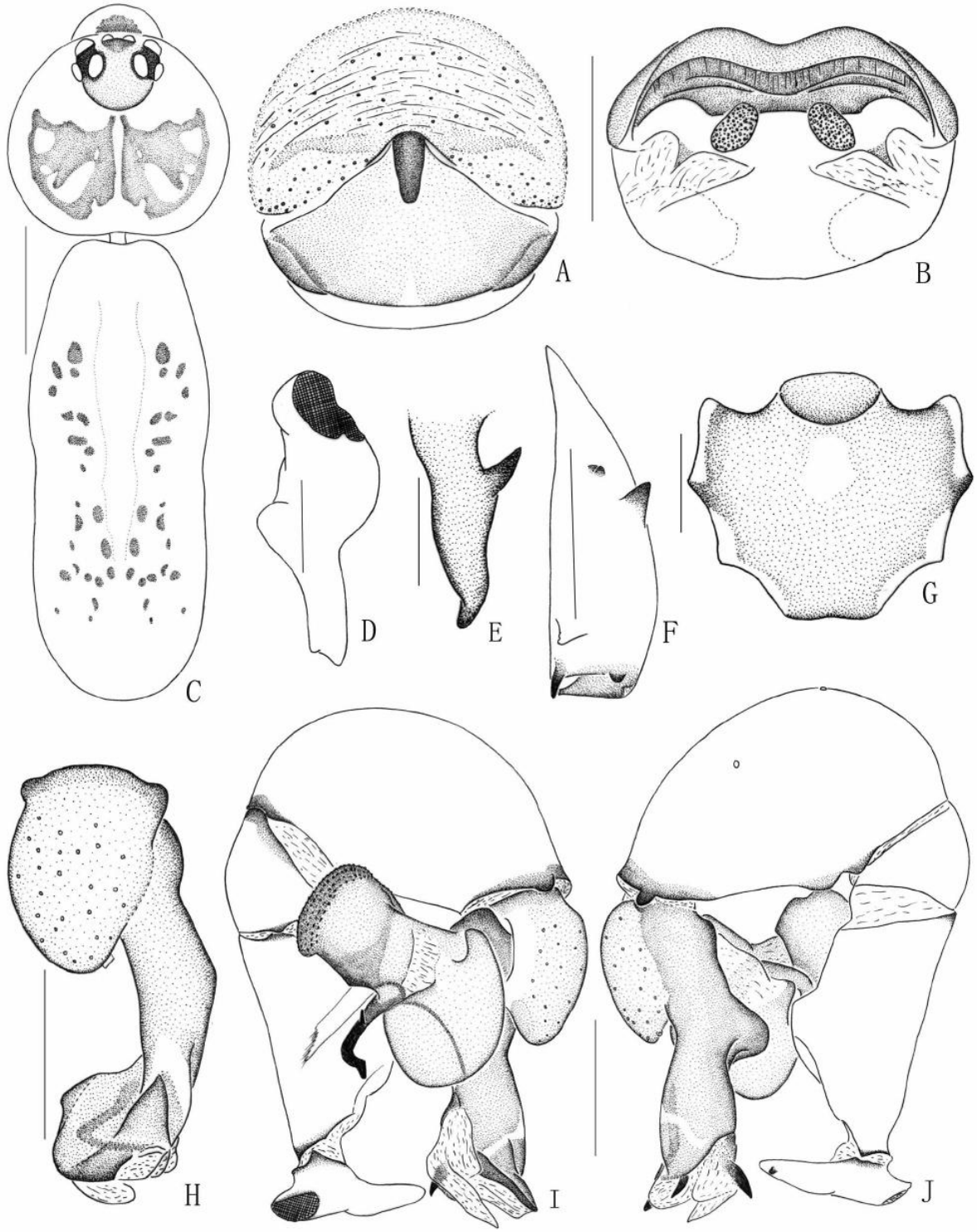

FIGURE 5. *Pholcus clavatus* Schenkel, 1936. A. epigynum, ventral view. B. same, dorsal view. C. male body, dorsal view. D. trochanter of male left palp, dorsal view. E. tip of left appendix, retrolaterodorsal view. F. male left chelicera, frontal view. G. male sternum, ventral view. H. left procursus, dorsal view. I. left palp, prolateral view. J. same, retrolateral view. Scale lines: 1.0mm (C), 0.5mm (A, B, F–J), 0.2mm (D, E).

Variation. Tibia I in other males: 9.8–10.8 (mean 10.4).

Female: in general very similar to male. Female (Mt. Huashan), total body length 6.6–7.5, one specimen total length 5.4: cephalothorax 1.5 long, 1.7 wide; abdomen 3.9 long, 1.7 wide. Tibia I in four females: 7.5, 6.8, 7.3, 7.0. Distance AME–AME 0.06. Diameter AME 0.09, ALE 0.17, PME 0.16, PLE 0.16. Epigynum roughly triangular as illustrated in Fig. 5A, with a short finger-shaped apophysis on the top. Dorsal view as in Fig. 5B, with a slightly M-shaped sclerotized arch anteriorly and a pair of oval pore plates.

Distribution. Known from several localities in northern China.

Material: Type material. *Pholcus clavatus*: type specimen one juvenile from Dangchang, Gansu Province, China, the type specimen may be lost; not examined. *Pholcus sinicus*: type specimens 7♂6♀ from Mt. Huashan, Shaanxi Province, June 1, 1957, No. 3024, leg. by C. D. Zhu (BMU), not examined.

Material examined. CHINA: **Shaanxi**: Mt. Huashan, Qingkeping, May 11, 1981, leg. M. S. Zhu, 7♂, 4♀ (MHBU).

Note. This species was originally described by Schenkel (1936) based on a juvenile (holotype) specimen collected from Dangchang, Gansu Province, China; we did not examine it. Zhu & Wang (1963) described *P. sinicus* as new to science according to the specimens collected from Mt. Huashan, Shaanxi Province (June 1, 1957, No. 3024, By C. D. Zhu); later *P. sinicus* was synonymized by Zhang (1987) as *P. clavatus*. Judging from the specimens we collected (four females and seven males, Qingkeping, Mt. Huashan, Shaanxi Province, May 11, 1981), from the type locality of *P. sinicus* and which bear the same patterns and genital structures of *P. sinicus*, we think they are conspecific.

The species *P. clavatus*, *P. dali* **sp. nov.**, *P. harveyi* **sp. nov.**, *P. huberi* **sp. nov.**, *P. kangding* **sp. nov.**, *P. kunming* **sp. nov.**, *P. parayichengicus* **sp. nov.**, *P. qingchengensis*, *P. qinghaiensis*, *P. saaristoi* **sp. nov.**, *P. shangrila* **sp. nov.**, *P. songi* **sp. nov.**, *P. songxian* **sp. nov.**, *P. subwuyiensis* **sp. nov.**, *P. taibaiensis*, *P. yangi* **sp. nov.**, *P. yichengicus*, *P. zhangae* **sp. nov.** seem to form a species group within the genus *Pholcus*, all with the following characters: epigynum has a short (or long) club-shaped apophysis; male palpal procursus tip of nearly uniform type and palpal bulb with appendix; other similar characters including femur of male palp without retrolateral apophysis (except *P. qingchengenisi* and *P. saaristoi* **sp. nov.**); chelicerae have pair of apophyses distally, pair of apophyses proximolaterally and pair of apophyses proximocentrally; pattern of carapace is ‘butterfly’ or ‘Peking-opera-mask’ type.

All these species are mainly distributed in the south, central and west of China; from Sichuan Province *P. kangding* **sp. nov.**, *P. qingchengensis* and *P. zhangae* **sp. nov.** are known, from Yunnan Province *P. dali* sp.nov., *P. kunming* **sp. nov.**, *P. saaristoi* **sp. nov.**, *P. shangrila* **sp. nov.** and *P. yangi* **sp. nov.**, from Fujian Province *P. subwuyiensis* **sp. nov.**, from Henan Province *P. harveyi* **sp. nov.**, *P. huberi* **sp. nov.**, *P. parayichengicus* **sp. nov.** and *P. songxian* **sp. nov.**, from Hubei Province *P. songi* **sp. nov.**, from Shanxi Province *P. yichengicus*, from Shaanxi Province *P. taibaiensis*, from Qinghai Province *P. qinghaiensis*, from both Shaanxi Province and Gansu Province *P. clavatus*. Since these species share both a morphology and geographic distribution, we believe they may have a relatively close phylogenetic relationship.

Tong, Y., Li, S. 2010. Eight new spider species of the genus *Pholcus* (Araneae, Pholcidae) from China. Zootaxa 2355: 35-55.

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***Pholcus clavatus* Schenkel, 1936**
Figs 2A–C, P, 5A–F

Pholcus clavatus Schenkel 1936: 32, f. 8. Zhang 1987: 59, f. 43.1–6. Song Zhu & Chen 1999: 57. Hu 2001: 85, f. 9.1–6. Song, Zhu & Chen 2001: 75, f. 32A–G. Zhang & Zhu 2009: 18, fig. 5A–J.
Pholcus sinicus Zhu & Wang 1963: 464, f. 11–17. Zhu, Tu & Shi 1986: 120, f. 3.1–7.
Pholcus sinensis Hu 1984: 78, f. 72.1–3. Chen & Zhang 1991: 75, f. 66.1–3 (lapsus for *P. sinicus*).

Material examined: 2 males and 6 females, CHINA: Tibet, Linzi, Pailong Town (30°01.372′N, 95°00.475′E, alt. 2080 m), 31 August 2005, Y. Lin leg.; 1 female, CHINA: Tibet, Bomi County, Tongmai Town (30°04.557′N, 95°07.384′E, alt. 2150 m), 31 August 2005, Y. Lin leg.

Remark: This species has been well described by Zhang & Zhu (2009).

Distribution: New recordeds from Tibet, Hebei, Liaoning, Qinghai, Shaanxi, and Zhejiang.

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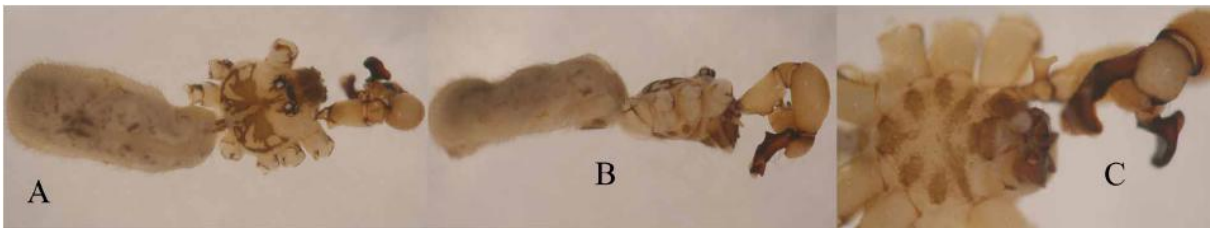
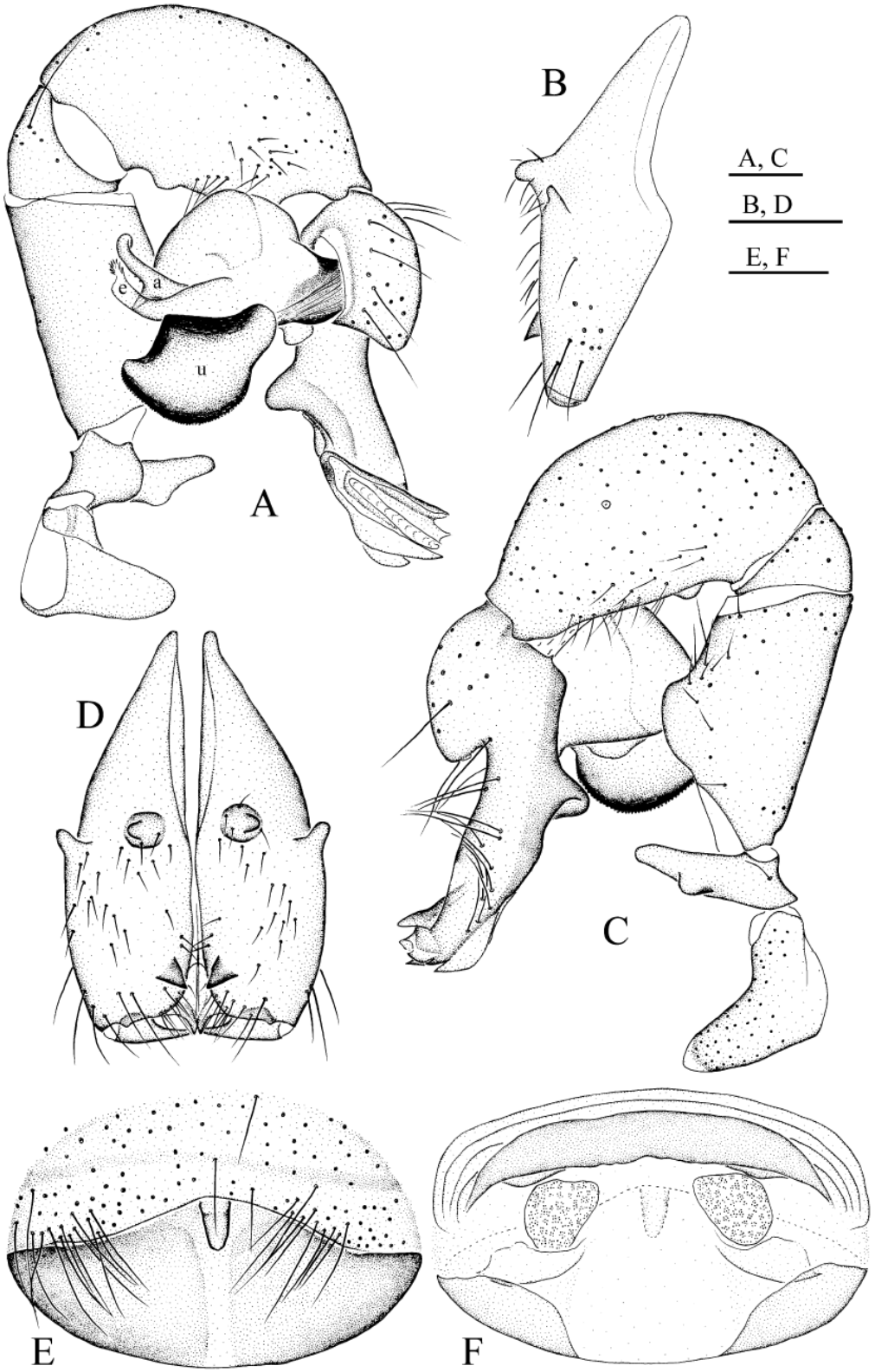


Pholcus clavatus Schenkel, 1936, A–C,



FIGURES 5A–F. *Pholcus clavatus* Schenkel, 1936. A. Male left palp, prolateral view; B. Male chelicerae, lateral view; C. Male left palp, retrolateral view; D. Male chelicerae, frontal view; E. Female genitalia, ventral view; F. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

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

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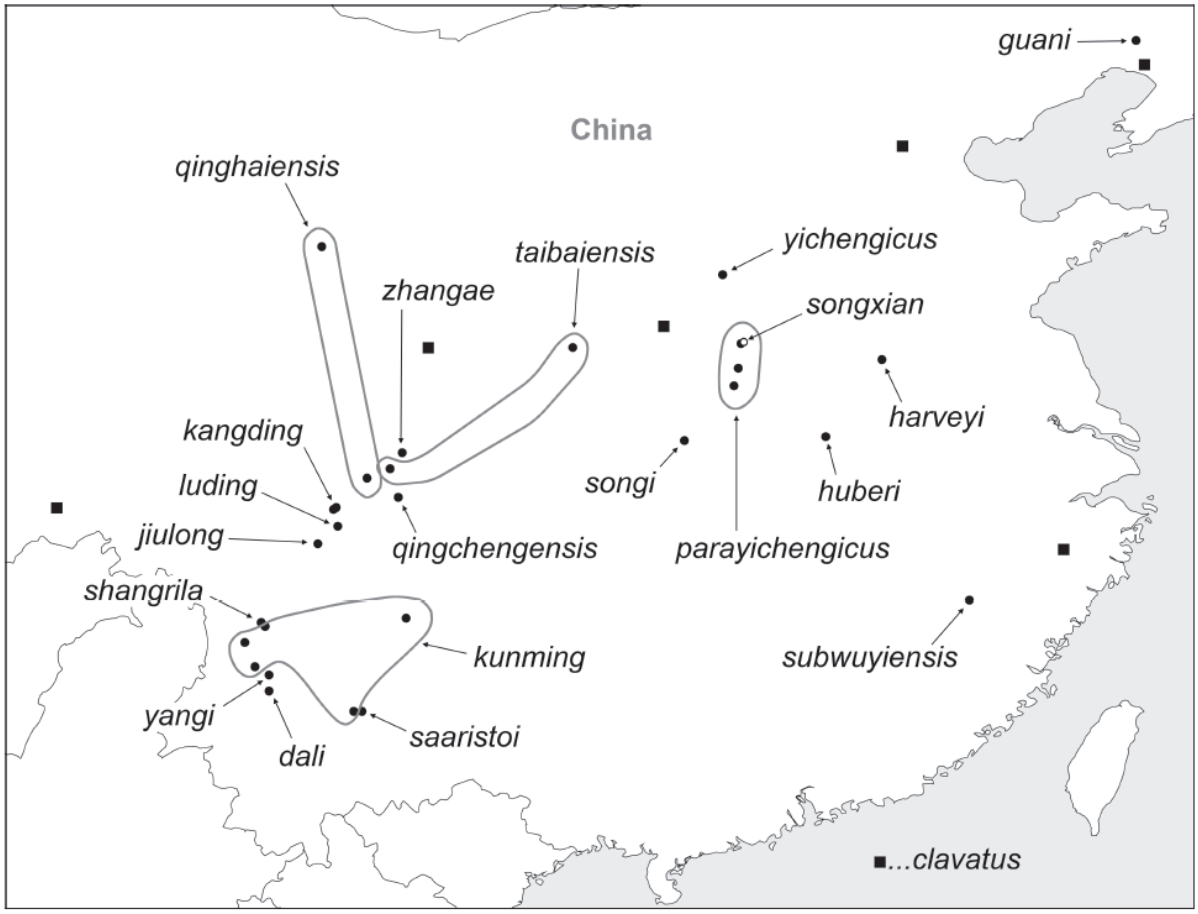

FIG. 2171. Known distribution of the *Pholcus yichengicus* species group.