Pholcus zham Zhang, Zhu & Song, 2006

Zhang, F., Zhu, M.S., Song, D.X. 2006. A review of pholcid spiders from Tibet, China (Araneae, Pholcidae). J. Arachnol. 34: 194-205.

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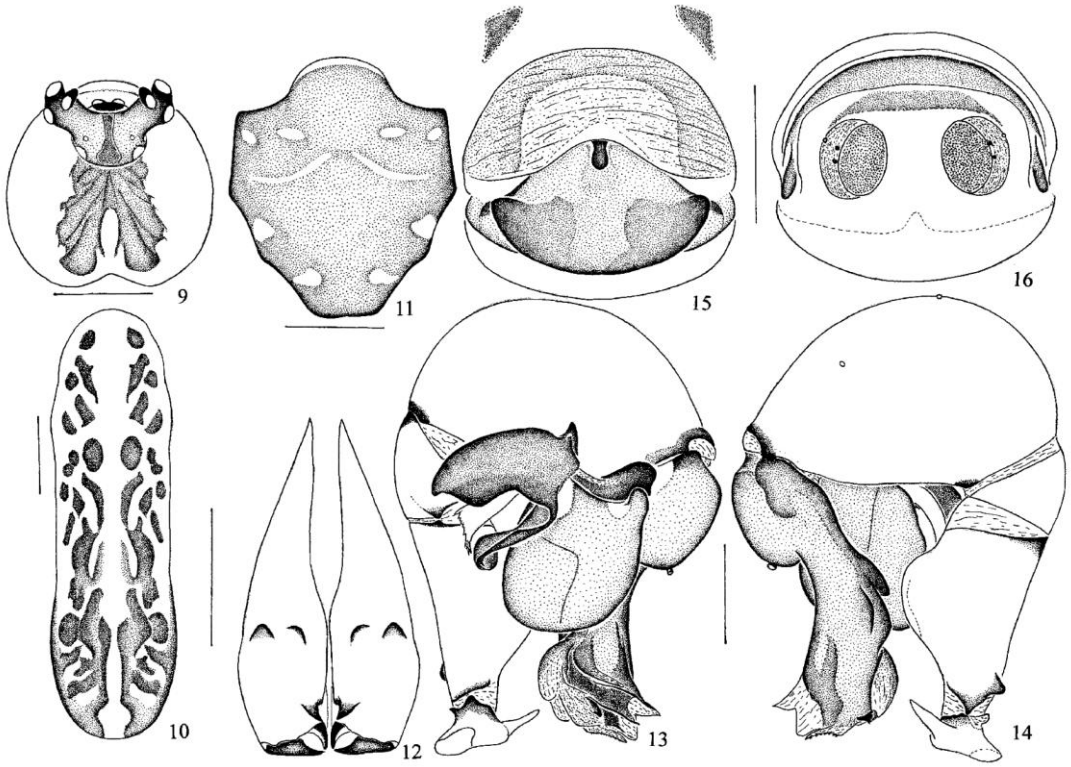

Figures 9–16.—*Pholcus zham*, new species: 9. male prosoma, dorsal view; 10. male opisthosoma, dorsal view; 11. male sternum, ventral view; 12. male chelicerae, frontal view; 13. left pedipalp, prolateral view; 14. same, retrolateral view; 15. epigynum, ventral view; 16. same, dorsal view. Scale lines: 1 mm (9, 10), 0.5 mm (11–16).

Pholcus zham new species
Figs. 9–16

Material examined.—CHINA: *Tibet*: Holotype male, Zham Town (27°54′N, 85°54′E), Nyalam County, 30 August 2002, Feng Zhang and Zhi-Sheng Zhang (HU). Paratypes: 6 females, same data as holotype (HU).

Etymology.—The species name is a noun in apposition derived from the type locality.

Diagnosis.—This new species resembles *P. medog* (Figs. 1–8), but can be readily distinguished from the latter by: the shape of the uncus, the non-bifurcate appendix of male pedipalp and the chelicerae with two pairs of unsclerotized apophyses centrally.

Description.—*Male (holotype):* Total body length 6.33: cephalothorax 1.56 long, 1.73 wide; abdomen 4.77 long, 1.26 wide. Prosoma shape as in Fig. 9. Carapace short, broad and almost circular, ochre, with brown mark broadly connecting to ocular area. Cephalic region raised, with a brown longitudinal mark centrally, ocular area yellow. Clypeus 0.80 high, ochre, without marks. Except AMEs, other six eyes in two triads, each triad on the top of a relatively longer eye stalk. Distance AME-AME 0.07. Diameter AME 0.11, ALE 0.22, PME 0.16, PLE 0.17. Chelicerae shaped as in Fig. 12, with pair of black apophyses distally, and two pairs of unsclerotized rounded apophyses proximolaterally and proximocentrally respectively. Labium light yellow. Endites gray. Sternum (Fig. 11) dark gray, with roughly 5 pairs of irregular yellow patches on it. Legs exceedingly long and slender, femora, patellae and tibiae ochre, with dark rings, metatarsi and tarsi brown. Measurements of legs: I 56.61 (13.77 + 13.95 + 25.65

+ 3.24); II 36.90 (9.76 + 10.04 + 14.85 + 2.25); III 24.57 (7.02 + 6.75 + 9.45 + 1.35); IV 32.91 (9.59 + 8.83 + 12.83 + 1.66). Leg formula: 1243. Abdomen cylindrical, pale ochre, dorsum with many brown spots as in Fig. 10, venter with central long brown stripe. Spinnerets yellowish brown. Uncus of male pedipalp large and slightly rectangular, heavily sclerotized and provided with many scales on the edge; sclerotized appendix hook-shaped and rod-like; embolus lying between the uncus and appendix, soft and transparent (Fig. 13); and procursus with ventral boss (Fig. 14).

Female: In general very similar to male. Total body length 7.36–8.82. One specimen measured: total length 8.82: cephalothorax 1.70 long, 1.72 wide; abdomen 4.32 long, 1.48 wide. Clypeus 0.49 high. Both eye rows recurved. Except AMEs, other six eyes in two triads, each triad on a slightly elevated tubercle. Distance AME-AME 0.06, AME-ALE 0.12, PME- PME 0.33, PME-PLE 0.08. Diameter AME 0.10, ALE 0.22, PME 0.14, PLE 0.21; MOA 0.31 long, front width 0.27, back width 0.58. Measurements of legs: I (12.96 + 13.95 + 25.61 + 3.19); II (9.45 + 9.54 + 14.37 + 2.21); III (6.75 + 6.44 + 9.00 + 1.26); IV (9.72 + 8.82 + 12.96 + 1.74). Leg formula: 1243. Epigynum roughly triangular, with a knob-shaped apophysis on the top of it (Fig. 15).

Habitat.—Untidy webs are made under rocks.

Distribution.—Known only from type locality in Nyalam County, Tibet.

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

***Pholcus zham* Zhang, Zhu & Song, 2006**
(Fig. 62)

Pholcus zham Zhang, Zhu & Song 2006: 197, f. 9–16.

Diagnosis. This species resembles *P. medog*, but can be readily distinguished from it by the shape of the palpal uncus (Fig. 62F), by the unsplit appendix (Fig. 62F), by the palpal femur with a dorsal projection retrolaterally (Fig. 62G), and by the chelicerae with a pair of unsclerotized round apophyses proximocentrally (Fig. 62D).

Redescription. Male (holotype): total body length 6.3: cephalothorax 1.6 long, 1.7 wide; abdomen 4.8 long, 1.3 wide. Leg I: 56.6 (13.8+1.2+12.8+25.7+3.2), tibia II: 9.0, tibia III: 6.0, tibia IV: 7.8; tibia I L/D: 75. Prosoma shape as in Fig. 62C. Carapace short, broad and almost circular, ochre, with brown marks broadly connecting to ocular area. Cephalic region raised, with a brown longitudinal mark centrally, ocular area yellow. Clypeus 0.80, ochre, without marks. Each eye triad on the top of a relatively long eye-stalk. Distance AME–AME 0.07. Diameter AME 0.11, ALE 0.22, PME 0.16, PLE 0.17. Chelicerae as in Fig. 62D, with pair of black apophyses distally, and two pairs of unsclerotized rounded apophyses proximolaterally and proximocentrally respectively. Labium and endites gray. Sternum dark gray, with roughly 5 pairs of irregular yellow patches on it as in Fig. 62E. Femora, patellae and tibiae ochre, with dark rings, metatarsi and tarsi light ochre. Abdomen cylindrical, pale ochre, dorsum with many brown marks as in Fig. 62C. Venter with long brown stripe centrally. Spinnerets yellowish brown. Femur of palp with a dorsal projection retrolaterally. Uncus of male palp large and curved and slightly rectangular, heavily sclerotized and provided with many scales at the edge (Fig. 62F). Appendix a single large rod, hook-shaped, sclerotized (Fig. 62F). Embolus between the uncus and appendix, soft and transparent. Procursus with ventral boss and complex tip (Fig. 62G).

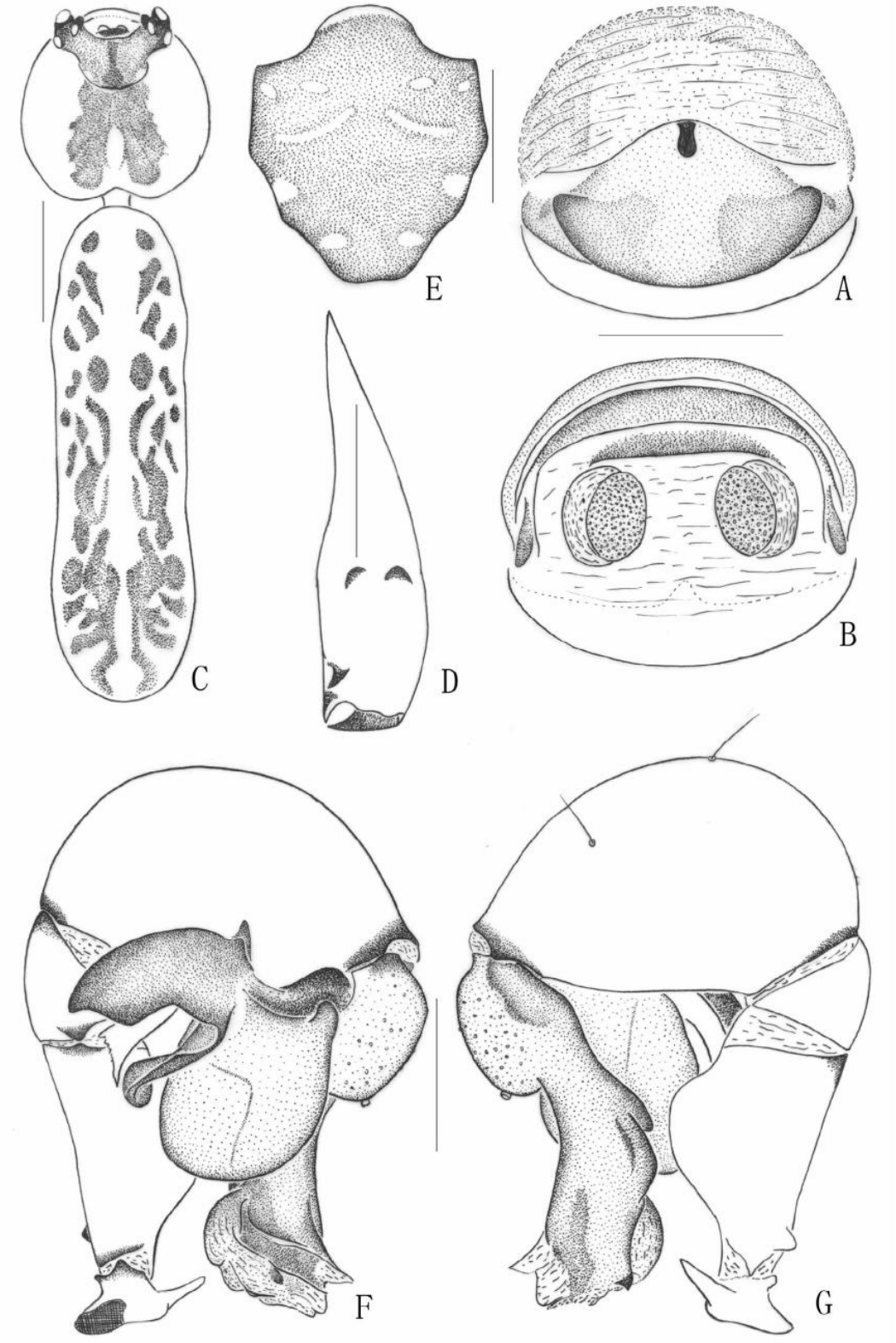

FIGURE 62. *Pholcus zham* Zhang, Zhu & Song, 2006 (illustrations modified from Zhang *et al*. 2006). A. epigynum, ventral view. B. same, dorsal view. C. male body, dorsal view. D. male left chelicera, frontal view. E. male sternum, ventral view. F. left palp, prolateral view. G. same, retrolateral view. Scale lines: 1.0mm (C), 0.5mm (A, B, D–G).

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Female: in general very similar to male. Total length of bodies 7.0–7.4. A specimen measured (paratype), total length 7.0: cephalothorax 1.7 long, 1.7 wide; abdomen 5.3 long, 1.5 wide. Tibia I: 12.8. Clypeus 0.49 high. Distance AME–AME 0.06. Diameter AME 0.10, ALE 0.22, PME 0.14, PLE 0.21. Epigynum roughly triangular as in Fig. 62A, with a knob-shaped apophysis on the top. Dorsal view as in Fig. 62B, with a rainbow-shaped sclerotized arch anteriorly and a pair of oval pore plates posteriorly.

Distribution. Known only from the type locality in Nyalam County, Tibet.

Material examined. CHINA: **Tibet**, Nyalam County, Zham Town, August 30, 2002, leg. F. Zhang and Z. S. Zhang, male holotype, 6♀ paratypes (MHBU).

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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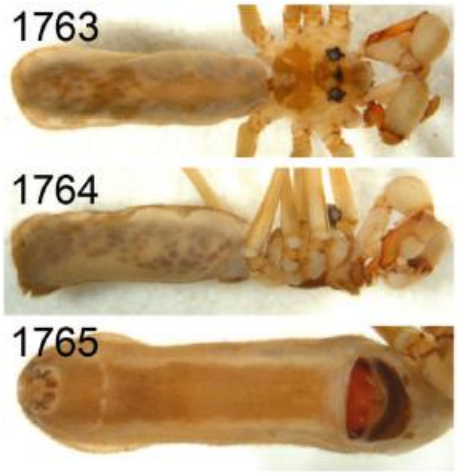

1763-1765. *Ph. zham*, male, dorsal and lateral views; female abdomen, ventral view.

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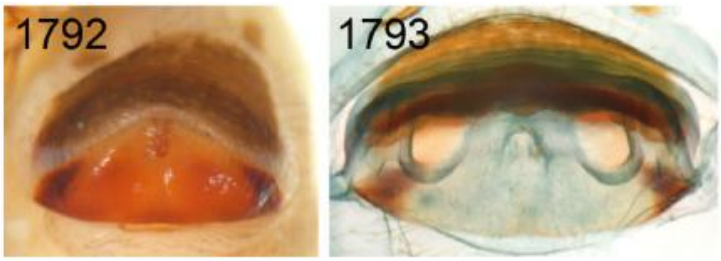

1792, 1793. *Ph. zham*.

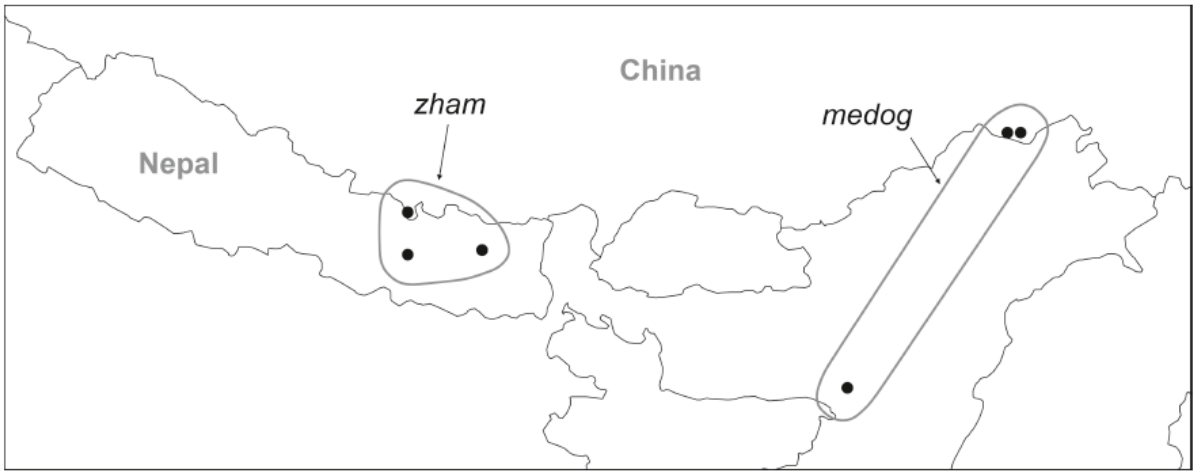

FIG. 1863. Known distributions of *Pholcus zham* and *Ph. medog*.

Pholcus zham Zhang, Zhu & Song, 2006

Figs. 1763-1765, 1792, 1793, 1864-1871

Pholcus zham Zhang, Zhu & Song 2006: 197-198, figs. 9-16. Zhang & Zhu 2009a: 106-108, figs. 62a-g (copied from Zhang *et al.* 2006).

Types. Male holotype and 6♀ paratypes from China, Tibet, Nyalam County, Zham Town [27°59.7'N, 85°58.8'E; the coordinates in Zhang *et al.* 2006 are mistaken), 30.viii.2002 (F. Zhang, Z. Zhang), in MHBU, not examined.

Note. The Nepalese specimens below are certainly very closely related to the types of this species, but considering the variation found within Nepal, the specific status of these specimens warrants further collecting and study.

Diagnosis. Distinguished from congeners by male palpal morphology (Figs. 1864, 1865; complex procursus, shapes of uncus and appendix), male chelicerae (Fig. 1866; distal apophyses divided; similar to *Ph. medog*), and female genitalia (Figs. 1792, 1868).

Male (Arun Valley). Total body length 4.9, carapace width 1.3. Leg 1: 39.0 (9.5 + 0.6 + 9.2 + 17.0 + 2.7), tibia 2: 6.2, tibia 3: 4.2, tibia 4: 5.9; tibia 1 L/d: 69. Habitus as in Figs. 1763 and 1764. Carapace ochre-yellow with light brown mark posteriorly, ocular area and clypeus medially also light brown, sternum brown with light spots near bases of coxae, legs with light brown rings on femora and tibiae subdistally, patella area and tibia-metatarsus also darker, abdomen ochre-gray with poorly visible cuticular brown pattern dorsally, ventrally with wide brown band (cf. female, Fig. 1765). Distance PME-PME 460 µm, diameter PME 140 µm, distance PME-ALE 45 µm, distance AME-AME 60 µm, diameter AME 80 µm. Ocular area elevated, many stronger hairs on posterior side, each triad on short additional elevation directed laterally. No thoracic furrow; clypeus unmodified. Chelicerae as in Fig. 1866, with two pairs of distal apophyses apparently without modified hairs, with proximal frontal and lateral apophyses. Sternum wider than long (0.80/0.65), unmodified. Palps as in Figs. 1864 and 1865, coxa unmodified, trochanter with slender retrolatero-ventral apophysis, femur with small dorsal apophysis proximally, large hump ventrally, procursus very complex distally, with several membranous and sclerotized processes, without dorsal spines (Fig. 1869), bulb with large uncus, weakly sclerotized embolus, branched appendix. Legs without spines and curved hairs, few vertical hairs; retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium absent on tibia 1, present on other tibiae. Many tarsal pseudosegments, but only distally a few visible in dissecting microscope.

Variation. Tibia 1 in 3 other males from Arun Valley: 10.0, 10.6, 11.0. Some males also with many internal spots visible through cuticle dorsally and laterally. The male from Toma Kosi has longer legs (tibia 1: 13.0; holotype: ~13.3), lacks the cuticular pattern on the abdomen, and has a slightly different procursus tip (Fig. 1870) and appendix (Fig. 1871).

Female. In general similar to male but triads closer together (distance PME-PME 255 µm). Tibia 1 in female from Arun Valley: 8.7; female from Toma

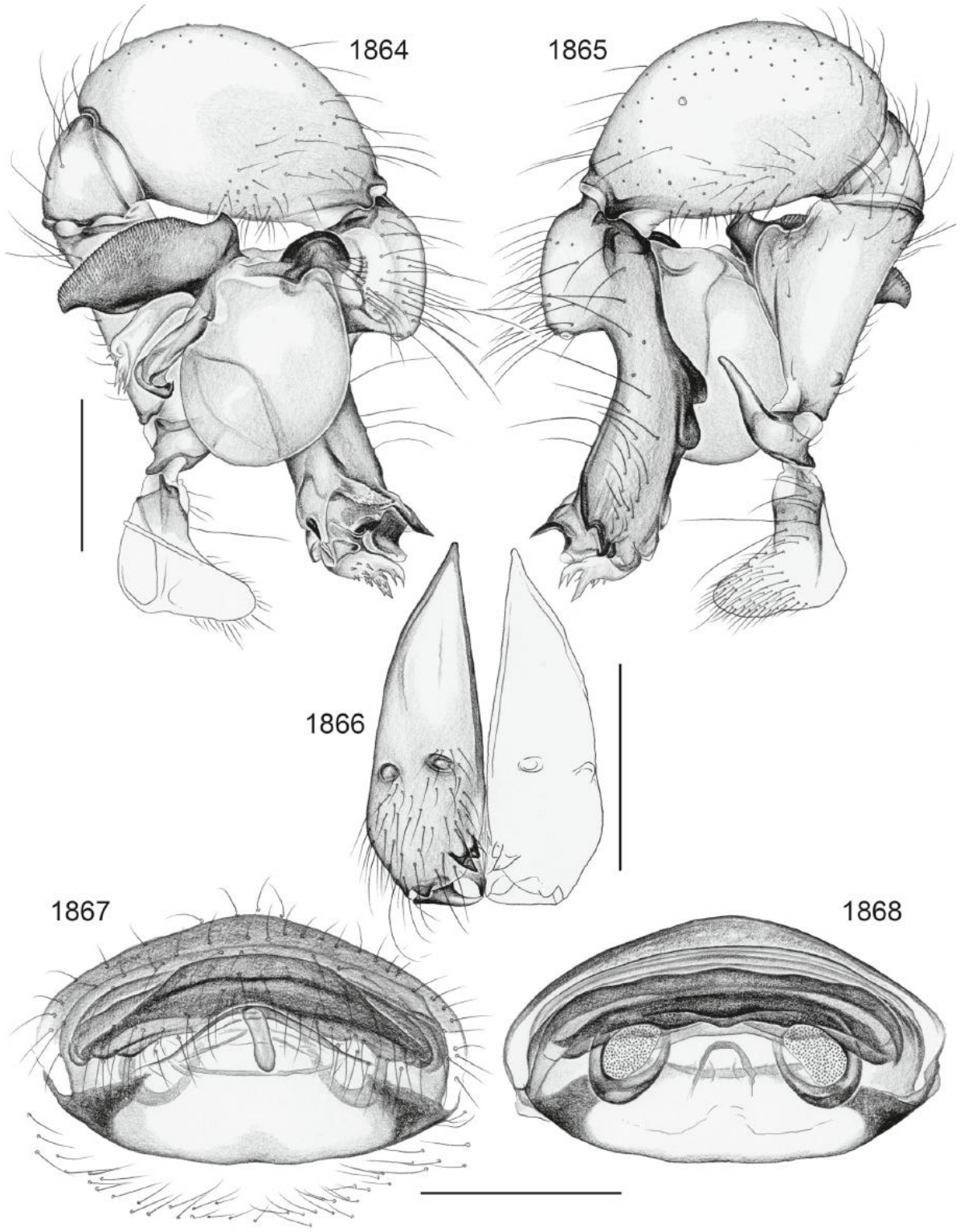

FIG. 1864-1868. *Pholcus zham*. 1864, 1865. Left male palp, prolateral and retrolateral views. 1866. Male chelicerae, frontal view. 1867, 1868. Cleared female genitalia, ventral and dorsal views. Scale lines: 0.5.

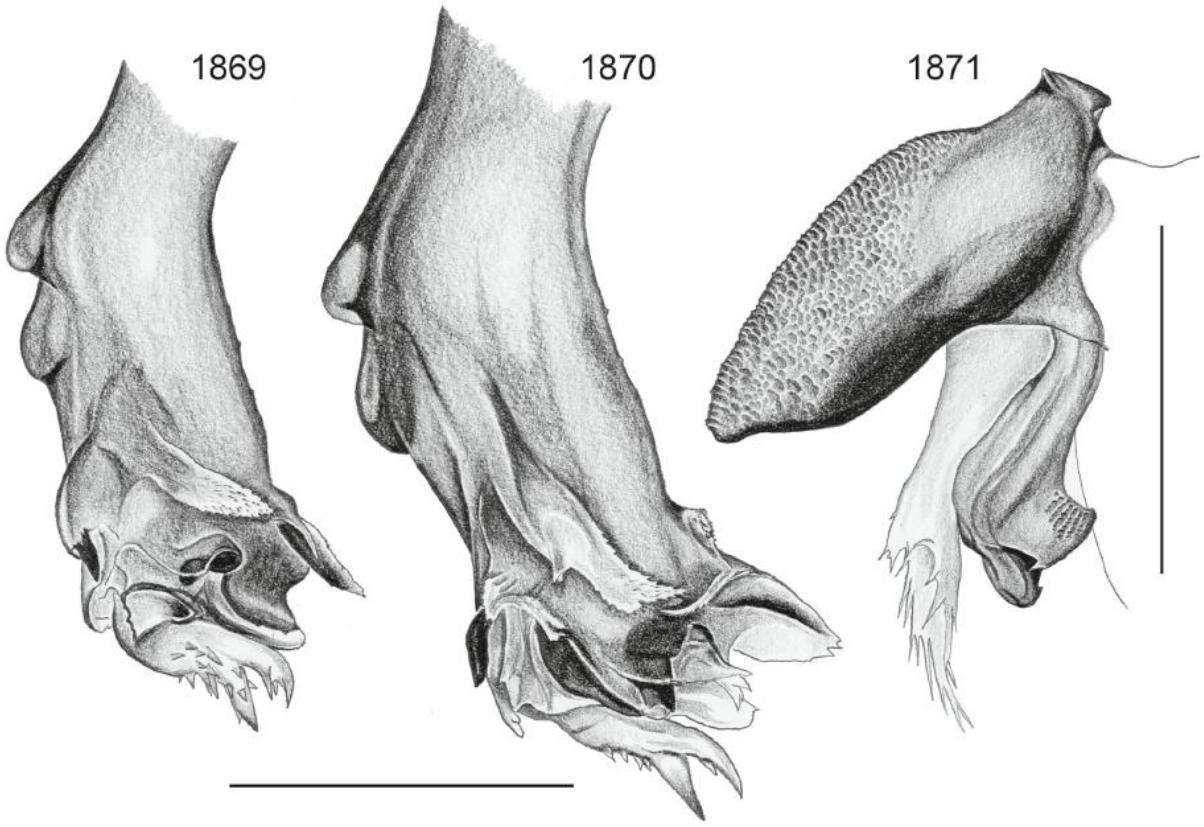

FIG. 1869-1871. *Pholcus zham*. 1869, 1870. Left procursi of males from Arun Valley (1869) and Toma Kosi river valley (1870). 1871. Bulbal processes of male from Toma Kosi river valley. Scale lines: 0.5.

Kosi: 10.2. Epigynum with large brown arc anteriorly, sclerotized brown plate with 'knob' (Figs. 1792, 1867); internal genitalia as in Figs. 1793 and 1868.
Distribution. Known from type locality in southern Tibet and from eastern Nepal (Fig. 1863).
Material examined. NEPAL: *Koshi*: Sankhuwasabha Distr.: Arun Valley, "between Mure and Hurure" [~27°25'N, 87°07'E], mixed broad-leaved forest, 2050-2150 m a.s.l., 9.-17.vi.1988 (J. Martens, Schawaller), 4♂1♀ in SMF. *Janakpur*: Toma Kosi river valley (~27°21'N, 85°59'E), west slope of Rolwaling Himal, Simigau Valley env., 2000 m a.s.l., among rocks, 3.vi.2000 (J. Schmidt), 1♂1♀ in ZFMK.