Redescription of the Central Asian spider *Pholcoides seclusa* comb. nov. (Araneae: Filistatidae)

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Abstract. *Filistata seclusa* O. Pickard-Cambridge, 1885, a species described from Himalayas was thought to be based on immature specimens. The study of one of the syntypes revealed that it is an adult female, which is selected as the lectotype and re-described. Somatic and endogyne morphology indicate that this species belongs to *Pholcoides* Roewer, 1960, a genus known only from two species from Afghanistan (*P. afghana* Roewer, 1960) and adjacent Tajikistan (*P. monticola* (Spassky, 1941)). Therefore, a new combination is proposed for the species: *Pholcoides seclusa* (O. Pickard-Cambridge, 1885) **comb. nov.** Comparative figures are given for all three species as well as a map of distribution of the genus.

Keywords: Afghanistan, Aranei, *Filistata*, India, Pakistan, Prithinae, Tajikistan, Xinjiang

Zusammenfassung. Wiederbeschreibung der zentralasiatischen Spinne *Pholcoides seclusa* comb. nov. (Araneae: Filistatidae). *Filistata seclusa* O. Pickard-Cambridge, 1885, eine Art die aus dem Himalaya beschrieben wurde, wurde vermeintlich nach immaturen Exemplaren beschrieben. Die Untersuchung eines Syntypus zeigte, dass es ein adultes Weibchen ist, das als Lectotyp ausgewählt und wiederbeschrieben wird. Habitus und Morphologie der Endogyne belegen, dass die Art zur Gattung *Pholcoides* Roewer, 1960 gehört. *Pholcoides* enthält bislang lediglich zwei Arten aus Afghanistan (*P. afghana* Roewer, 1960) und dem benachbarten Tadschikistan (*P. monticola* (Spassky, 1941)). Daher wird für die Art eine neue Kombination vorgeschlagen: *Pholcoides seclusa* (O. Pickard-Cambridge, 1885) **comb. nov.** Vergleichende Abbildungen werden für alle drei Arten vorgelegt sowie eine Verbreitungskarte für die Gattung.

Pholcoides Roewer, 1960 is a small genus with only two species (WSC 2018) belonging to Prithinae Gray, 1995 (Zonstein et al. 2013). Both species, *Pholcoides afghana* Roewer, 1960 and *P. monticola* (Spassky, 1941) are known from the mountains of Central Asia, Afghanistan and Tajikistan. While studying types of spiders described by Pickard-Cambridge (1885) based on material of the Second Yarkand Mission (deposited in Oxford University Museum of Natural History) we found one specimen belonging to Filistatidae. Although vials with the types from the Second Yarkand Mission lack any geographical or species name labels (Prószyński & Żochowska 1981, Marusik 1993, 2017, Marusik et al. 2018, Marusik & Nadolny 2018) it was easy to recognize that the filistatid specimen belongs to *Filistata seclusa* O. Pickard-Cambridge, 1885, the only species of the family considered in O. Pickard-Cambridge (1885). Because this species was never properly figured, and its endogyne was never described we decided to redescribe this species. Study of the somatic morphology reveals that the species is misplaced in the genus and even in the subfamily, and is very similar to *Pholcoides*. Examination of the endogyne of this species proved that it belongs to *Pholcoides*. The goals of this paper are as follows: providing a detailed redescription of *Filistata seclusa*, establishing a new combination, comparing *P. seclusa* with two other congeners and rediagnosing the genus.

Material and methods

Specimens were photographed with a Canon EOS 7D camera attached to an Olympus SZX16 stereomicroscope and Pro-Microscan camera attached to an Olympus BH-2 stereomicroscope. Digital images were mounted using CombineZP and Helicon Focus 3.10 image stacking software. Endogynes were cleared in a KOH/water solution until the soft tissues were dissolved. Standard abbreviations are used for leg segments: Fe – femur, Pa – patella, Ti – tibia, Mt – metatarsus, Ta – tarsus. Further abbreviations: Pg – pore gland, Rc – receptacle proper, Rs – stalk of receptacle, Vs – vesicle. All measurements are in mm. The lectotype of *Pholcoides seclusa* is from the Oxford University Museum of Natural History, United Kingdom (OUMNH).

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Taxonomic survey

Pholcoides Roewer, 1960

Pholcoides Roewer, 1960: 40.
Pholcoides: Huber 2009: 68 (transferred from Pholcidae to Filistatidae).
Pholcoides: Zonstein et al. 2013: 65.
Pholcoides: Zonstein & Marusik 2016: 86.

Type species. *Pholcoides afghana* Roewer, 1960 from Afghanistan.

Comment. So far, the genus is known by females only.

Diagnosis. Within the Palearctic Filistatidae *Pholcoides* is unique in possessing the combination of a medium-sized compact body with carapace and sternum circular or even nearly wider than long, the spinnerets and anal tubercle located posteriorly and closer to the opisthosoma apex (Figs 3, 8), and rather long and slender female pedipalps and legs I–IV (Figs 1, 3, 7, unusual for the Palearctic Filistatidae). Females (males are not known) can be distinguished from other Palaearctic genera by the long receptacles with long membranous bases (stems) and lobulated terminal parts. Long and lobulated receptacles are unique for Filistatidae.

Description. Small to medium-sized spider, with carapace 1.2–1.7 mm long. Carapace flattened circular, with or without dark (partially reticulate) pattern on clypeus, postocular area and margins. Eye tubercle low, blackened. Clypeus moderately long, subhorizontal. Sternum circular; labium much longer than wide; maxillar lobes long weakly converging. Legs long and slender. Calamistrum very short, formed by two rows of setae. Opisthosoma elongate with spinneret group located relatively close to opisthosoma apex. Male characters unknown. Endogynes in all known species are rather similar and composed by pair of undivided receptacles. Receptacle has

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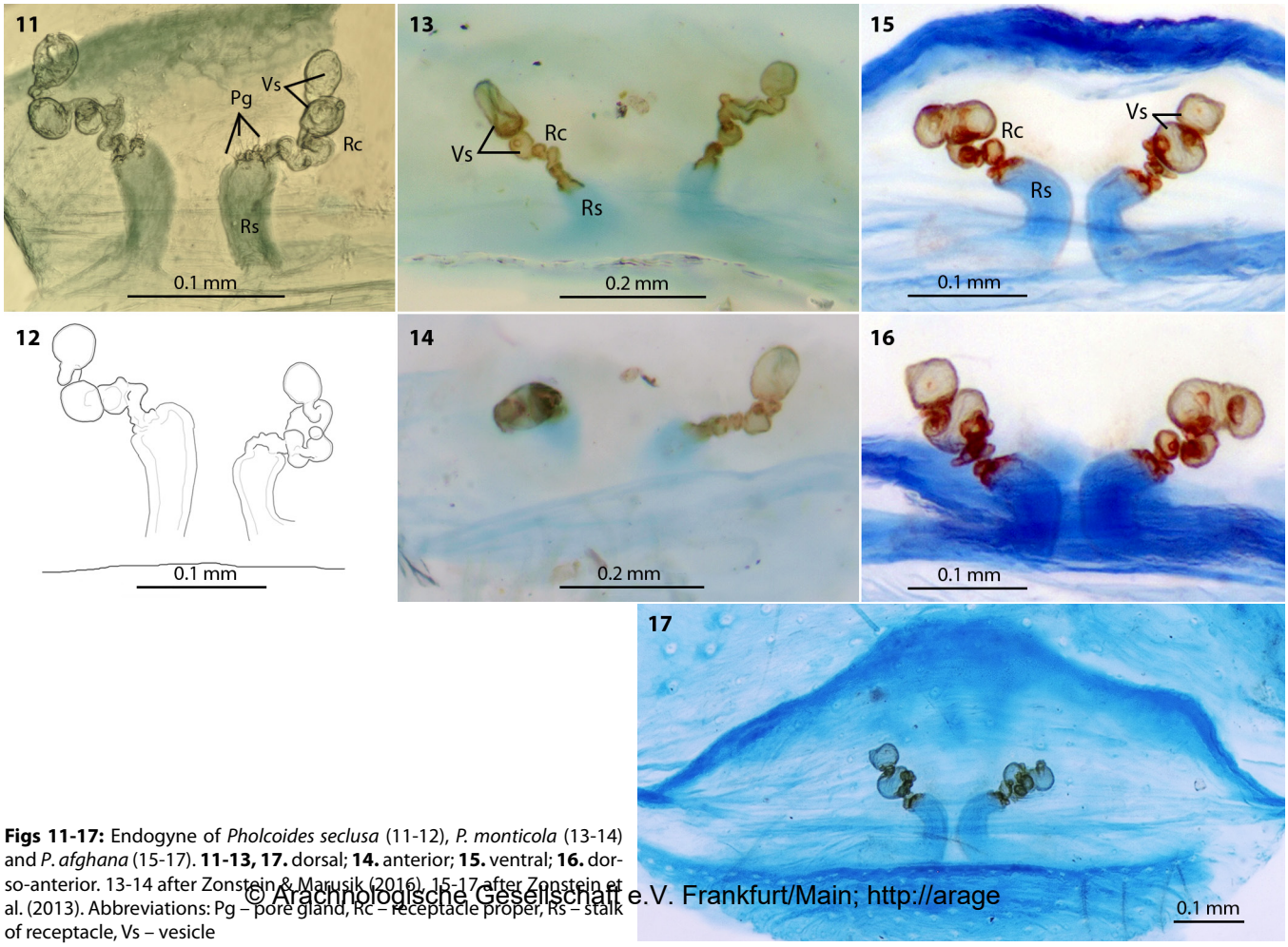
Figs 1-10: Habitus and somatic characters of females of *Pholcoides seclusa* (1-6), *P. monticola* (7-9) and *P. afghana* (10). **1, 7.** habitus, dorsal; **2, 8.** opisthosoma, ventral; **3.** habitus, lateral; **4-5.** prosoma, dorsal and frontal; **6, 9-10.** metatarsus IV showing calamistrum dorsal. 7-9 after Zonstein & Marusik (2016), 10 after Zonstein et al. (2013)



Figs 11-17: Endogyne of *Pholcoides seclusa* (11-12), *P. monticola* (13-14) and *P. afghana* (15-17). **11-13, 17.** dorsal; **14.** anterior; **15.** ventral; **16.** dorso-anterior. 13-14 after Zonstein & Marusik (2016), 15-17 after Zonstein et al. (2013). Abbreviations: Pg – pore gland, Rc – receptacle proper, Rs – stalk of receptacle, Vs – vesicle

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wide weakly sclerotized stem (Rs), longer than wide, roundly bent, proximally converging and in mid part strongly or weakly diverging. Receptacles proper (Rc) sclerotized stronger than stems; in all three species complex, composed by several lobes (Vs) of different size; basal proximal nodules smaller than distal. Distinct pore glands absent. *Pholcoides seclusa* have pore glands in the basal part of the proper receptacle (cf. Fig. 11).

Composition. The genus was described as monotypic. Until recently it was known by two species, *P. afghana* Roewer, 1960 and *P. monticola* (Spassky, 1941). Together with *P. seclusa* (O. Pickard-Cambridge, 1885) it now encompasses three species.

***Pholcoides afghana* Roewer, 1960** (Figs 10, 15-18)

Pholcoides afghana Roewer, 1960: 40, figs 12 a-d (♀).

Pholcoides afghana: Zonstein et al. 2013: 65, figs 1-12 (♀).

Comments. The species was redescribed and the endogyne was figured in Zonstein et al. (2013). It is known from the type locality only – Kabul.

***Pholcoides monticola* (Spassky, 1941)** (Figs 7-9, 13-14, 18)

Filistata monticola Spassky, 1941: 12 (♀).

Zaitunia monticola: Zonstein 1990: 50 (transferred from *Filistata*).

Pholcoides monticola: Zonstein & Marusik 2016: 86, figs 45A-E (transferred from *Zaitunia*).

Comments. The species was illustrated in Zonstein & Marusik (2016). It is known from two localities in eastern Tajikistan (Zonstein & Marusik 2016).

***Pholcoides seclusa* (O. Pickard-Cambridge, 1885) comb. nov.** (Figs 1-6, 11-12, 18)

Filistata seclusa O. Pickard-Cambridge, 1885: 5, pl. 1, fig. 2 (immature ♀).

Filistata seclusa: Reimoser 1919: 189 (indicated that ♀ was described by O. Pickard-Cambridge).

Filistata seclusa: Caporiacco 1934: 116, pl. 1, fig. 2 (reported from several localities: ♀♀, juvenile ♀♀ and ♂♂ in Karakoram and provided figure of eyes in ♀, probably misidentified).

Filistata reclusa: Reimoser 1935: 170 (misspelling; reported ♀ from Kashgar, Xinjiang China, most likely misidentified).

Filistata seclusa: Roewer 1955: 1279 (distribution indicated as "Turkestan, Karakorum", that ♀ was described by O. Pickard-Cambridge, and that Caporiacco (1934) had described both sexes).

Material examined. Lectotype ♀ designated here, label in the vial: "B[ottle] 378 v[ial] 4 1 sp". Information in the text: "Leh, August or September l873; Pankong-valley, 15th to 21st September 1873". Paralectotype specimens, either subadult females or adult females not found.

Note. The World Spider Catalog (2018) states that the species was described based on a female, although O. Pickard-Cambridge (1885) mentioned in his description an "immature female" only. The WSC (2018) indicates that Caporiacco (1934) described a male of *P. seclusa*, although males (seem to be juvenile) are listed among the material examined, but not mentioned in the text and not figured.

Diagnosis. This species differs from congeners by its smaller size (carapace 1.26 long, vs. 1.74 and 1.6 in two other

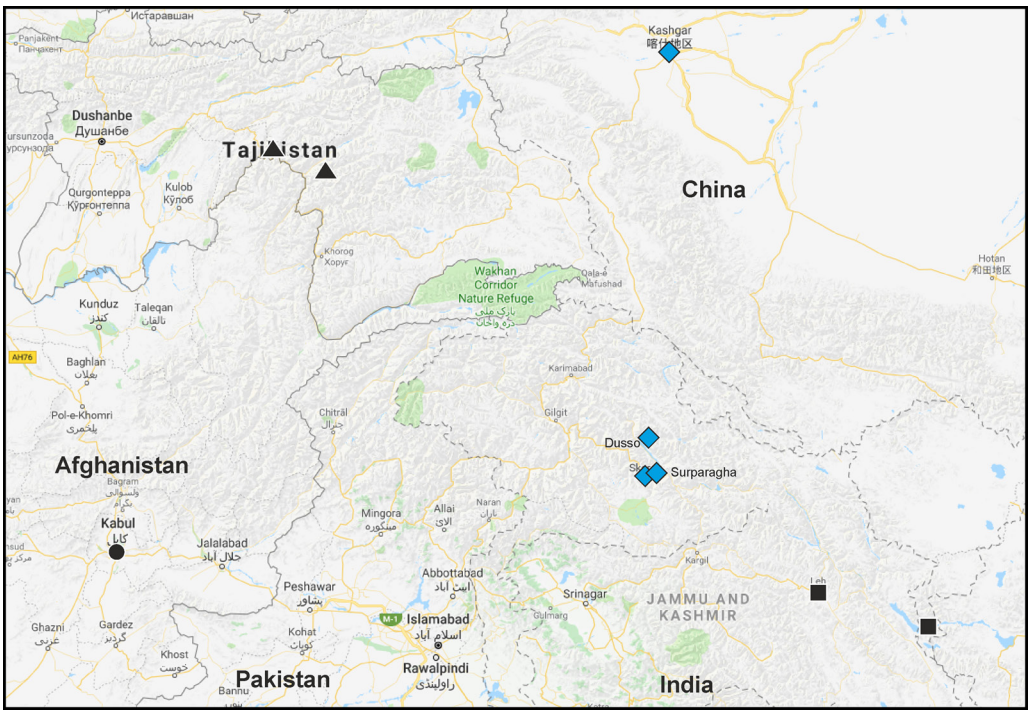

Fig. 18: Distribution records of *Pholcoides* species: *P. afghana* (dot), *P. monticola* (triangle) and *P. seclusa* (black squares refer to localities of syntypes and blue diamonds refer to records by Caporiacco (1934) and Reimoser (1935) which are most likely based on misidentifications

species), and in having a distinct carapace pattern with dark marginal stripes (vs. no marginal stripes). The endogyne of *P. seclusa* is most similar to those of *P. afghana* by having receptacles with two large lobes. *Pholcoides seclusa* can be distinguished from sibling species by the almost straight stalks of its receptacles (vs. roundly bent in *P. afghana*) separated by more than one radius (vs. separated by less than one radius). The endogyne of *P. seclusa* differs markedly from *P. monticola* by the almost straight and less spaced stalks (vs. bent stalks separated by more than their diameter) and larger vesicles.

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Description

Measurements. Body 3.63 long; carapace 1.26 long, 1.28 wide, 0.4 high; opisthosoma 2.5 long, 1.68 wide. Eye sizes and interdistances: AME 0.09, ALE 0.14, PME 0.1, PLE 0.14; ALE–ALE 0.14, PME–PME 0.1. Clypeus on ALE 0.17, on AME 0.27. Palp and leg length as in Tab. 1.

Somatic characters. Carapace brownish yellow with brown median patch and marginal stripes, anteriorly fused with yellow spots; eye tubercle dark brown. Opisthosoma dark greyish yellow with median brownish violet stripe margined with narrow brown outer stripes. Ventral surface and legs (concolorous) slightly paler then carapace. Ventral opisthosoma, otherwise, slightly darker. Spines completely lost but bases for 1 dorsobasal spine on all femora visible, as well as at least 3 retrolateral and 1 prolateral and several ventral spines on tibia IV. Other legs also with spines.

Tab. 1: Palp and leg lengths

	Fe	Pt	Ti	Mt	Ta	Total
Palp	0.85	0.45	0.6	–	0.73	2.63
I	1.55	0.53	1.45	1.28	0.88	5.69
II	1.38	0.55	1.2	1.13	0.7	4.96
III	1.33	0.55	1.2	1.25	0.7	5.03
IV	1.63	0.55	1.38	1.63	0.83	6.02

Endogyne. Stalks of receptacles almost straight, spaced by more than one radius; receptacles diverging, with two large lobes and a few smaller ones; basal part of receptacles with poorly distinct pore glands.

Distribution and comments. The World Spider Catalog (2018) indicated the distribution of this species as China (Yarkand), Karakorum, and the Himalayas. It was described based on specimens from eastern part of the Jammu and Kashmir State in India and one locality lying on the border between Jammu and Kashmir and Xizang (Tibet), China. The species was reported from SW Xinjiang (Reimoser 1935) and several localities in northern Jammu and Kashmir (Caporiacco 1934) now belonging to Pakistan. Specimens from Karakoram and Xinjiang were identified based on the brief description and habitus figures given by Pickard-Cambridge (1885). Given that most filistatid species have a very local distribution in the Palaearctic (cf. Zonstein & Marusik 2016, Zamani & Marusik 2018) it is very likely that the record from Xinjiang refers to another species, and possibly even to another genus. Records by Caporiacco (1934) from Karakoram may also belong to other species, as the distance between the type locality and records by Caporiacco is over 200 km, and the two localities belong to different mountain ranges.

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