

The spider genus *Pholcus* Walckenaer, 1805, in the Maritime Province, Russian Far East (Aranei: Pholcidae)

Пауки рода *Pholcus* Walckenaer, 1805 (Aranei: Pholcidae) из Приморья

Т.И. Олигер
Т.И. Олигер

Nizhnesvirsky State Nature Reserve, Lodeynoye Polye, zapovednik, Leningrad Area 187710 Russia.

Нижнесви́рский госуда́рственный приро́дный запо́ведник, Лодейное По́ле Ленингра́дской о́бласти 187710 Росси́я.

KEY WORDS: *Pholcus*, Pholcidae, taxonomy, Maritime Province.

КЛЮЧЕВЫЕ СЛОВА: *Pholcus*, Pholcidae, таксономия, Приморье.

ABSTRACT: An illustrated description of a new species, *Pholcus minutus* sp.n., and a redescription of *Ph. phungiiformes* Oligier, 1983, are given from the Maritime Province, Russian Far East.

РЕЗЮМЕ: Иллюстрированное описание нового вида *Pholcus minutus* sp.n. и переописание *Ph. phungiiformes* Oligier, 1983, из Приморья.

Three species of the spider genus *Pholcus* Walckenaer, 1805, have been reported from the Maritime Province, Russian Far East: *Ph. phungiiformes* Oligier, 1983, which has hitherto been found only there [Oligier, 1983], *Ph. opilinoides* (Schrank, 1781), a widespread Eurasian species, and *Ph. crypticolens* Bösenberg & Strand, 1906, first described from Japan and later discovered in Korea [Paik, 1978] and in the Maritime Province of Russia [Sternbergs, 1988]. To give a better idea of *Pholcus* diversity in East Asia, Korea is currently known to support nine [Paik, 1978], and Japan two, species [Yaginuma, 1990].

Apparently, *Pholcus* species are rather thermophilic, being absent from regions with rigorous climates. Therefore, the Maritime Province where hot summers alternate with cold winters, when the night temperature in the first half of winter usually ranges between -26 and -28°C , often without snow cover but always with strong north winds, is unlikely a territory to harbour a particularly rich *Pholcus* fauna. Yet this paper puts on record a fourth, new congener encountered in the Province at a place supporting several warm radon water springs. Whether or not this new species is restricted to this particular area and/or habitat, remains unclear yet, but this question certainly invites further explorations to be made. In any event, warm springs is a kind of habitat quite widespread in East Asia, both mainland and insular.

Type material has been deposited in the collection of the Zoological Museum, Moscow State University, Moscow (ZMMU).

Total length and carapace measurements are given in mm, the others in points of a $\times 7$ scale. The following abbreviations are used: a — appendage of embolus, AL — anterior lateral eyes, AM — anterior median eyes, e — embolus, d — diameter of spermatheca, h — height of epigynal plate, PL — posterior lateral eyes, PM — posterior median eyes, s — width of epigynal plate, t — height of vulva, u — uncus.

Pholcus minutus sp.n.

Figs 1–12.

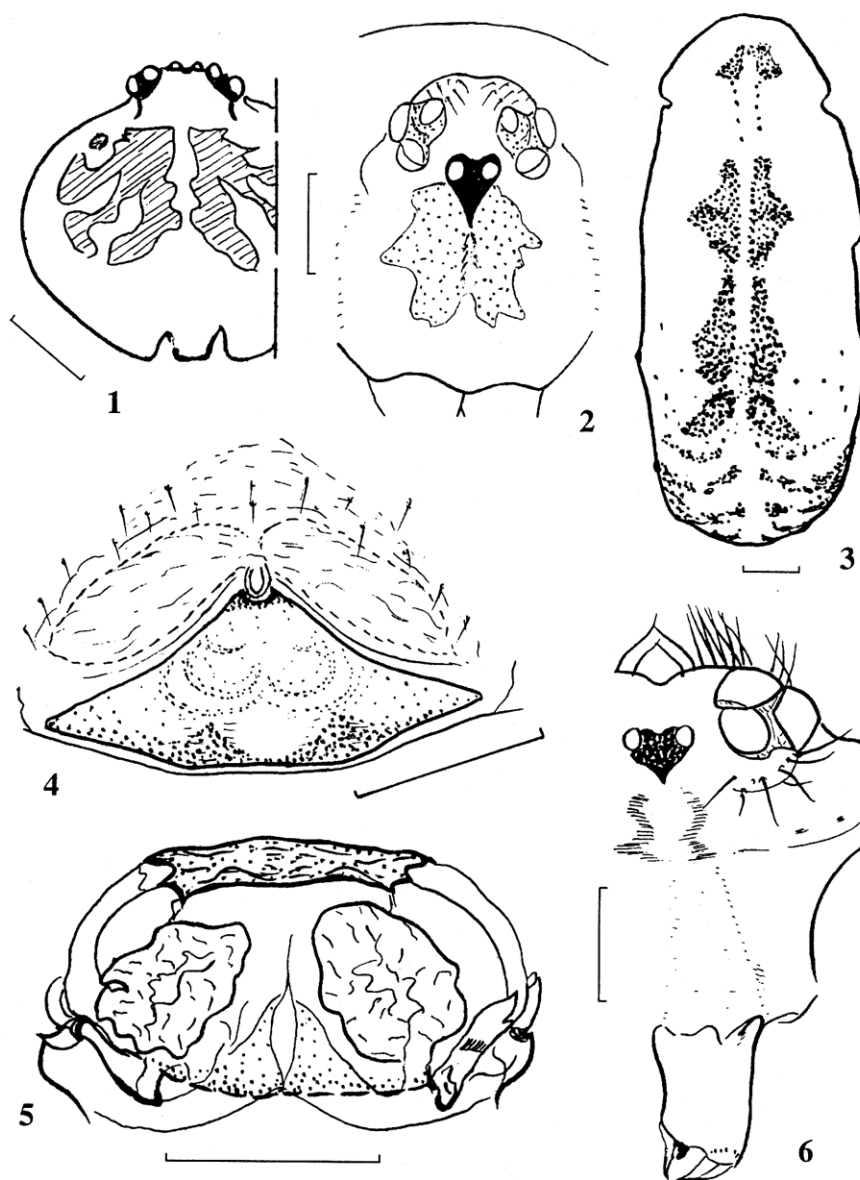
MATERIAL. Holotype ♀ (ZMUM), Maritime Prov., Lazovsky State Nature Reserve, Sukhoy Klyuch, 22.VI.1981, leg. T. Oligier. — Allotype ♂, and paratypes: 1 ♂, together with holotype, and 6 ♀♀ (all in ZMUM), same locality, 23.VI.1981, leg. T. Oligier.

DESCRIPTION. Female. Length 3.5–4.0 (3.5 in holotype). General coloration faintly yellow. Carapace: length 0.9–1.1, width 0.8–1.0 (1.1 \times 1.0) with a star-shaped brownish spot (Fig. 1). Cephalic part with short adpressed pubescence, frons with a gray spot (Fig. 2). Sternum yellow with thick brownish rounded specks turning into/coalescing with edging along margins of sternum. Abdomen with a dorsomedian, dark, leaf-shaped pattern (Fig. 3), ventrally grayish. Legs yellow mottled with brownish.

Eyes: $\text{AM} < \text{AL} > \text{PM} < \text{PL} = 4 : 7 : 6 : 8$.

Epigynal plate transversely subtriangular with an inverted trapeziform base (Fig. 4), s 3.2–4.2 (3.8), h 1.2–1.9 (1.5), s/h ratio 2.5 (2.6). Plate's surface with weak explanate impressions: one impression in posterior, and further two, becoming one at midline, in fore, part. "Button" non-erect, light, its apex lying inside groove of epigynal plate. Accessory glands of internal structure well-visible (Fig. 5). Spermathecae relatively large, t/d ratio about 1.6.

Male. Length 3.2. Coloration generally as in female but paler. Carapace: length 1.2, width 1.0. Top of



Figs. 1-6: *Pholcus minutus* spn: ♀ (1-5), ♂ (6): 1 — cephalothorax, dorsal; 2, 6 — cephalic part, frontal; 3 — abdomen, dorsal; 4 — epigyne; 5 — vulva. Abbreviations: d — spermathecal diameter, h — length of plate, s — width of plate, t — length of endogyne. Scale: 0.5 mm (1-2, 6), 0.25 mm (3-5).

Рис. 1-6: *Pholcus minutus* spn: ♀ (1-5), ♂ (6): 1 — головогрудь, дорсально; 2, 6 — голова, фронтально; 3 — брюшко, дорсально; 4 — эпигина; 5 — вульва. Условные обозначения: d — диаметр сперматеки, h — длина пластинки эпигины, s — ширина пластинки эпигины, t — длина эндегины. Масштаб: 0,5 мм (1-2, 6), 0,25 мм (3-5).

found in one place only, i.e. an open stony scree on a mountain slope southern of exposure, on the ground surface of boulders. The groups of spiders consisted of numerous juveniles of different age, several adult females, and only very few males.

DIAGNOSIS. The new species is closely related to *Ph. crypticolens*, the latter form known from Japan [Bösenberg & Strand, 1906; Chikuni, 1989], Korea [Paik, 1978], China [Zhu & Gong, 1991; Chen & Zhang, 1991]. However, the colouration of both male and female of *Ph.*

cephalic part with thick erect hairs inclined toward midline (Fig. 6). Anteromesal tooth of chelicera with three rounded, inwards decreasing capitula.

Palpus: white, non-sclerotized except for some protuberances or articulations (Figs 7, 8). Trochanter S-shaped, with an apical spur (Fig. 9). Femur with a small dorsal uncus at base and a protuberance near tip. Tip of cymbium regularly rounded; paracymbium dorsally with a small, caudad directed spine and a long, pointed, adpressed process ending up at top of this segment. Retrolateral surface of paracymbium with several long setae (Fig. 7), distally with several short protuberances and appendages (Fig. 10). Uncus elongated, rough at edge and with hardly visible, short hairs in its ventral part (Figs 8, 11). Embolus non-sclerotized (Fig. 11), with an appendage bearing 3-4 acute dorsal teeth (Fig. 12), of which first directed backwards and slightly bifid. Apex of embolus strongly truncate.

ECOLOGY. There are several warm radon water springs at Sukhoy Klyuch. Yet the spiders have been

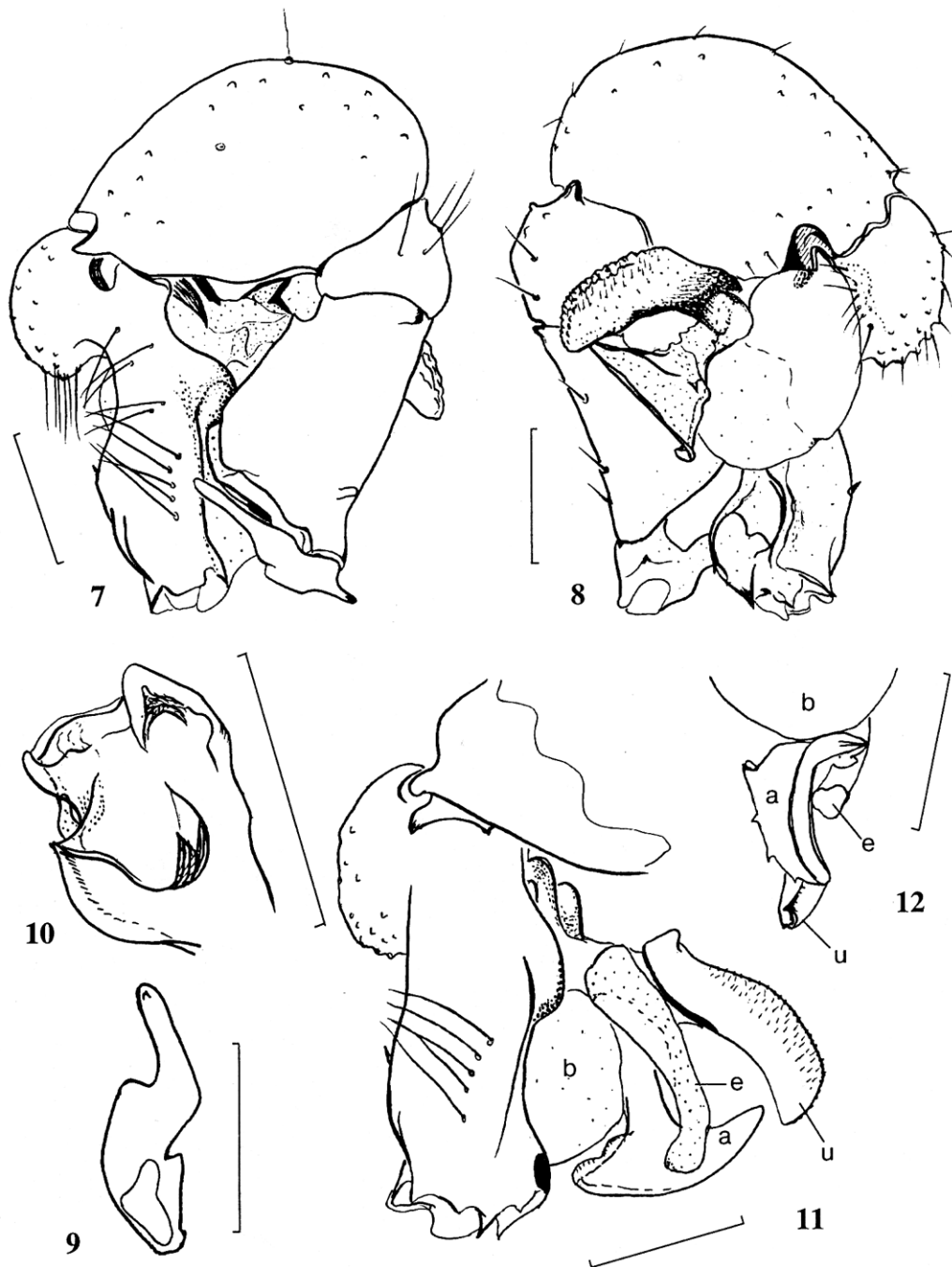
minutus is more pallid, the spot on the carapace does not reach the latter's hind edge. The female differs by genital structure, namely by the shape of the epigynal plate, the size and shape of the spermatheca. The male differs by the shape and structural details of the trochanter, embolic appendage and uncus.

Pholcus phungiformes Oliger, 1983 Figs 13-20.

Pholcus phungiformes Oliger, 1983: 627, figs 1-5.

MATERIAL. 2 ♂♂, 2 ♀♀ (ZMUM), Maritime Prov., Lazo Distr., Kievka, 10.VI.1976; 1 ♂, 6 ♀♀ (Coll. Oliger), same locality, IX.1981 and III.1982, all leg. T. Oliger.

REDESCRIPTION. Male. Total length 4.8. General colouration (background) yellow. Carapace: length 1.4-1.5, width 1.7. A gray radial pattern of carapace ending up on either side with a premarginal semi-circle forming a common spot caudally and extending anteriad like individual narrow stripes onto cephalic part. Edging of

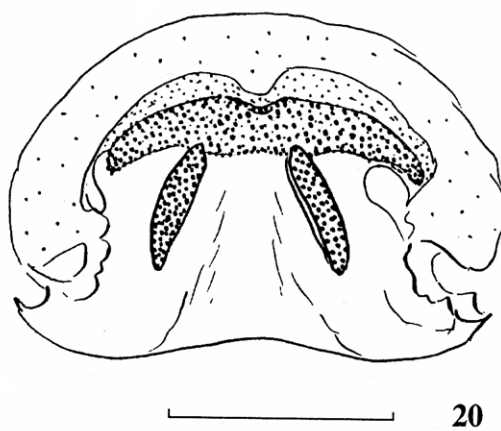
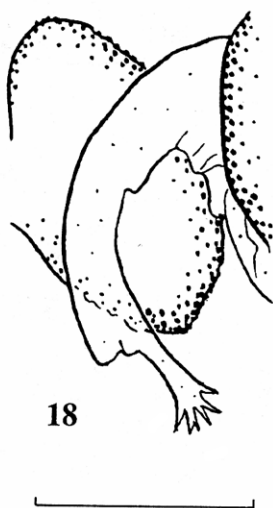
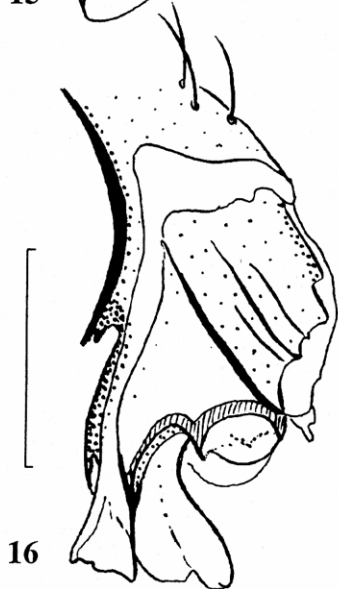
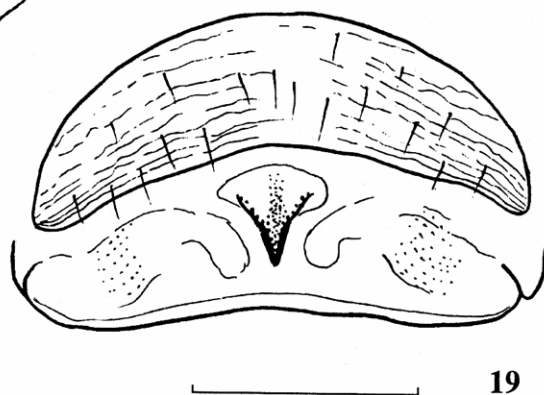
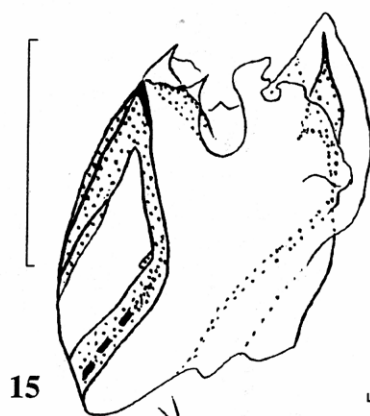
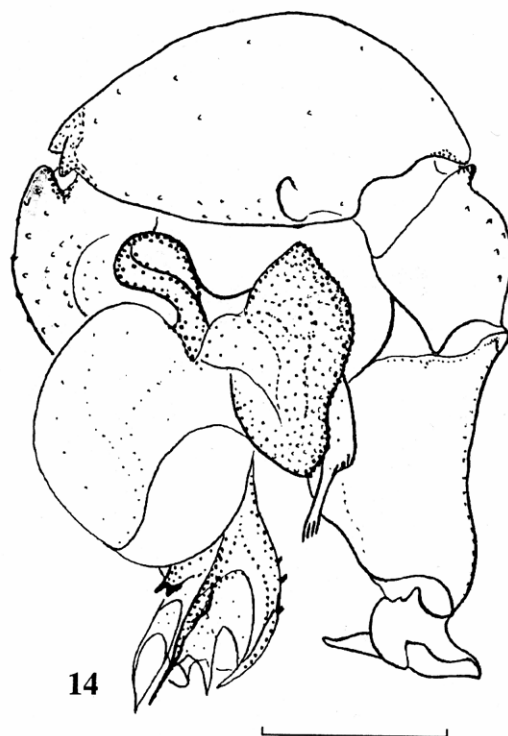
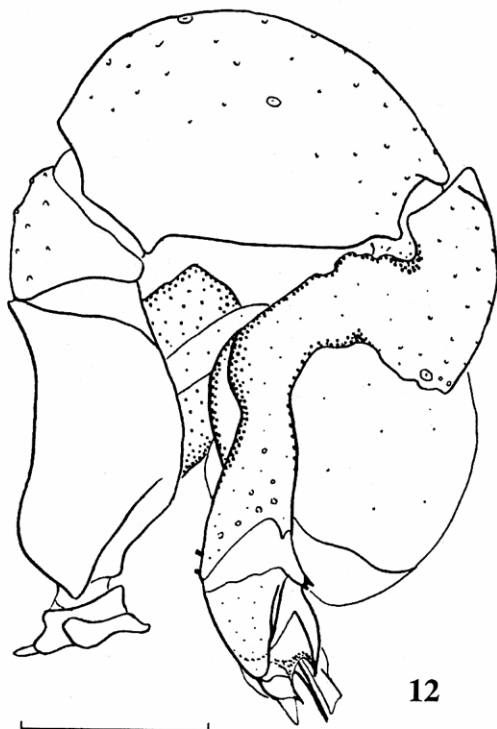


Figs. 7-12. *Pholcus minutus* sp.n, ♂: 7-8 — left pedipalp, retrolateral (7), prolateral (8); 9 — trochanter, proximal; 10 — tip of paracymbium, ventral; 11 — palpal components, retrolateral; 12 — palpal components, frontal. Abbreviations: a — appendage, b — bulb, e — embolus, u — uncus. Scale 0.25 mm.

Рис. 7-12. *Pholcus minutus* sp.n, ♂: 7-8 — левый палец, ретролатерально (7), пролатерально (8); 9 — трохантер, проксимально; 10 — вершина парацимбиума, вентрально; 11-12 — детали строения пальпы, ретролатерально (11), фронтально (12). Условные обозначения: а — аппендикс, b — бульбус, e — эмболюс, u — ункус. Масштаб 0,25 мм.

carapace broad, yellow. Cephalic part with short, sparse, adpressed pubescence. Chelicerae light brown, each with a well-visible, simple, distal tooth at mesal edge. Cheliceral proximolateral angle with a rounded protuberance. Abdomen with symmetrical, dorsal, black spots turning more vague on each side. Venter light, sternum yellow mottled with dark. Legs yellow with dark bands.

Pedipalp (Figs 13, 14) with a pale, ear-shaped outgrowth at border between prolateral and ventral sides of tibia. Cymbium not rounded, distally angulate. Paracymbium elongate, in apical part with a well-visible, retrolateral, non-sclerotized, transverse band making this segment look like divided, and with three black and blunt spines at ventral edge. Dorsal edge of paracymbium



ending up with a small bifid outgrowth, while its top of complex structure (Figs 15, 16). Uncus black, shining, phylloid, densely punctate-serrate at edge. Trochanter (Fig. 17) with a setigerous process. Embolus without any appendages, non-sclerotized, its tip cut in "paw"-like (Fig. 18).

Female. Total length 4.9–5.8. General colouration (background) paler than in male. Carapace: length 1.4–1.5, width 1.4–1.5.

Epigyne boletiform with a comparatively large "button" like a brown, triangular fang (Fig. 19). Spermatheca of vulva 4 times as long wide (Fig. 20).

ECOLOGY. A common house-dwelling species found inside buildings in Vladivostok and over the Lazo Distr., Maritime Province.

DIAGNOSIS. This species can easily be distinguished from other Far Eastern congeners by the structure of the female genitalia: boletiform epigyne, large "button" and elongate spermatheca. The male of *Ph. phungiformes* is closely related to *Ph. sokkrisanensis* Paik, 1978, but it differs by the shape of the trochanter and uncus, the presence of several small dark teeth and a light transverse band in the distal half of the paracymbium as well as by structural details of other segments of the palpus.

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