



Redescription of *Phrurolithus flavipes* (Araneae: Phrurolithidae), with the first description of the male

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Phrurolithus C.L. Koch, 1839, with 71 named species, is the largest genus of the family Phrurolithidae, which contains 188 species belonging to 14 genera (Platnick 2014). It has an almost exclusively Holarctic distribution: 34 species are known from the Palaearctic, 35 are known from the Nearctic and two species are known from Hispaniola. The genus is rather poorly studied and has never been the subject of wide-scale revision. Almost half of its species are known from a single sex: 23 from females and nine from males. Additionally, 45 species are known from the original description only, and one species has never been illustrated (Platnick 2014).

Currently working with spiders from Israel, we found several males of *Phrurolithus* that do not fit the description of any species known in the Mediterranean region. A revision of the spider collection deposited at the Tel Aviv University (TAU) revealed three females that match the description of *P. flavipes* O.P.-Cambridge, 1872, described from Lebanon on the basis of two females. The distribution of *P. flavipes* is mistakenly indicated by Platnick (2014) and by the World Spider Catalog (2015) as known only from Israel.

The goal of this paper is to provide a detailed redescription of the female and a first description of the male.

Photographs were taken using an Olympus SZX16 stereomicroscope with an Olympus E-520 camera and prepared using the CombineZP software in the Zoological Museum of the University of Turku. Illustrations of the macerated epigyne were made after exposure in an alcohol/water solution of Chlorazol Black for a few minutes.

Lengths of leg and palp segments were measured on the dorsal side, from the midpoint of the anterior margin to the midpoint of the posterior margin. All measurements are given in millimetres.

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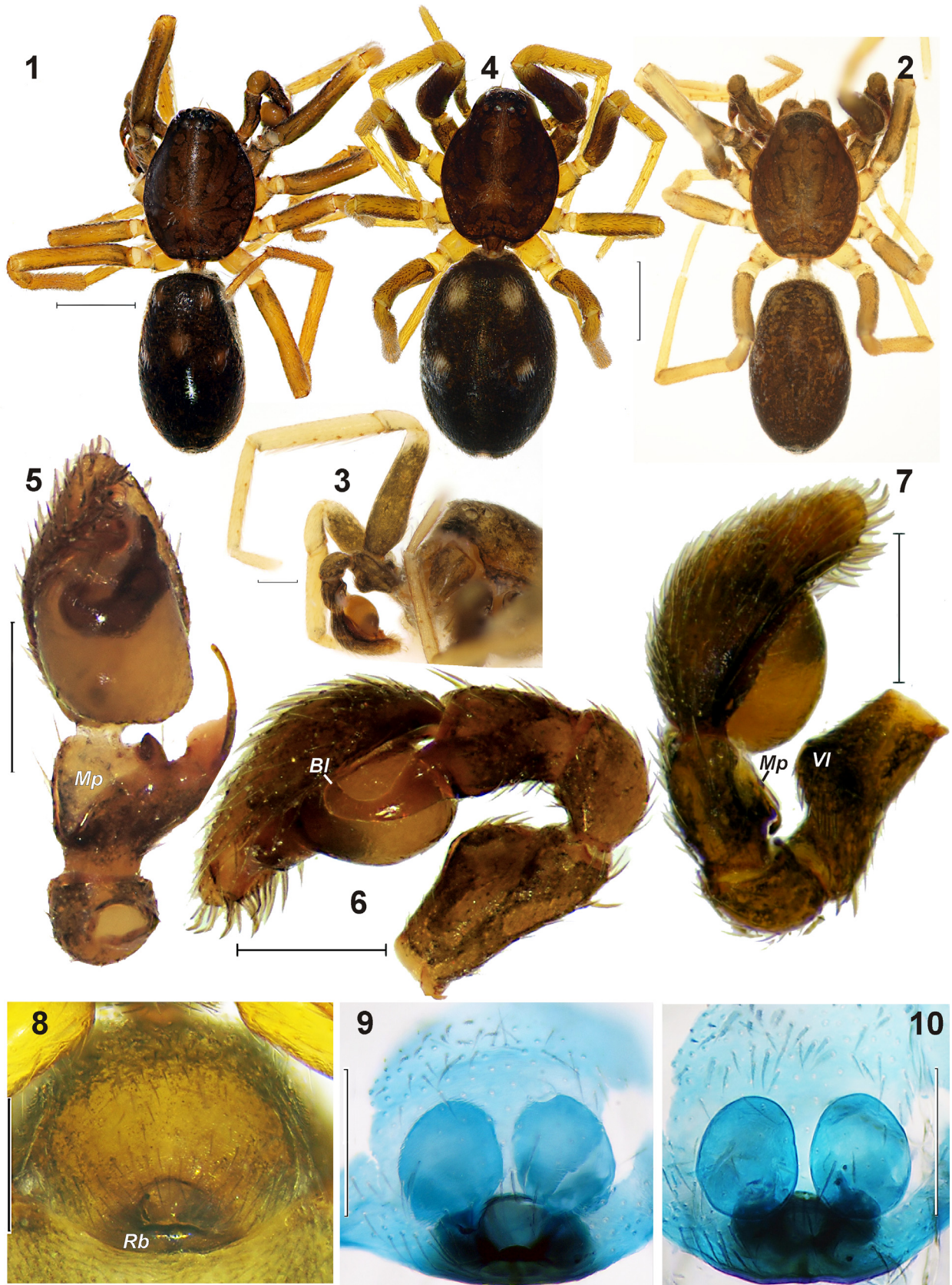
Phrurolithus flavipes O.P.-Cambridge, 1872

Figs 1–11

Phrurolithus flavipes O.P.-Cambridge, 1872: 252, pl. 16, fig. 35 (♀).

Types: 2 syntype ♀ from Hasbeiya and Mount Lebanon (both in Lebanon) in two vials: 1 ♀ (OUMNH, B.328, t.186) and 1 ♀ (OUMNH, B.328, t.42) with the same geographical labels "Palestine" from the Hope Entomological Collections, Oxford University Museum of Natural History examined by D.V. Logunov and compared with specimens from Israel.

Material examined. ISRAEL: 3 ♀ (TAU), Upper Galilee, N-slope of Mt. Meron, 33°01'N, 35°24'E, 900 m, 25.IV.2013 (S. Zonstein); 1 ♂ (TAU), same area, Ziv'on, 33°1'38.71"N, 35°24'47.17"E, 5–12.IV.2007 (T. Levanony); same area, 1 ♀ (TAU), 33°1'N, 35°25'E, 750 m, 17.IV.2012 (S. Zonstein); 1 ♂ (TAU), Carmel Ridge, Bat Shlomo, 32°35.5'N, 34°59.7'E, 17.I.2013 (S. Zonstein); 6 ♂ (TAU), Judean Hills, Adullam Nat. Park, 15.IV.2003 (U. Columbus, T. Levanony).



FIGURES 1–10. Habitus and copulatory organs of *Phrurolithus flavipes*. 1–2 male, dorsal; 3 male prosoma, lateral, showing spination of leg I; 4 female, dorsal; 5–7 male palp, ventral, retro- and prolateral; 8 intact epigyne, ventral; 9–10 macerated epigyne, ventral and dorsal. Scale bars: 1, 2, 4 = 0.5 mm, 3, 5–10 = 0.2 mm. Abbreviations: *Bl* bill-shaped process, *Mp* membranous part of tibia, *Rb* rebordered epigyne, *Vl* ventral lobe of femur.



FIGURE 11. Distribution records of *Phrurolithus flavipes*.

Diagnosis. Males of this species can be easily distinguished from other West Palaearctic species by the shape of the retrolateral tibial apophysis, tapering in the basal half only. Other species have the same structure either gradually tapering (*P. minimus* C.L. Koch, 1839, *P. corsicus* (Simon, 1878), *P. szilyi* Herman, 1879, *P. luppovae* Spassky, 1941), or sharply pointed (*P. nigrinus* (Simon, 1878)), or broad (*P. festivus* (C.L. Koch, 1835), *P. pullatus* Kulczyński, 1987). The female of *P. flavipes* differs from West Palaearctic congeners by having nearly round receptacles (elongated to some extent in other species) and a round epigynal opening rebordered posteriorly.

Description. Male. Total length 2.33. Carapace 1.05 long, 0.73 wide. General colouration dark brown. Carapace almost uniformly coloured, with darker margins and radial stripes (Figs 1–2). Abdomen with 5 light spots covered with whitish hairs, median spot less distinct than lateral spots. Legs yellowish or light brown with exception of femora. Femora I and II dark brown, femora III–IV with dark lateral stripes. Spination: tibia I with 5 pairs, metatarsus I with 3 pairs of ventral spines (Fig. 3), tibia II with 3 pairs of ventral spines, metatarsus with 4 proventral and 2 retroventral spines.

Leg measurements

	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.75	0.28	0.75	0.78	0.45	3.00
II	0.60	0.30	0.55	0.48	0.38	2.30
III	0.53	0.25	0.45	0.50	0.33	2.05
IV	0.85	0.30	0.73	0.75	0.45	3.08

Palp as in Figs 5–7, dark brown. Femur shorter than cymbium, with ventral lobe (*VI*) as in other congeners. Retrolateral tibial apophysis tapering in basal half only, terminal part with subparallel margins, rounded at tip with short bill-like (*BI*) extension directed dorsally; ventral side of tibia with elongate membranous part (*Mp*) that appears to correspond to the lobe of the femur.

Variation: total length 2.10–2.35. Carapace 0.93–1.00 long, 0.70–0.75 wide. Colouration varies from light brown to dark brown (Figs 1–2). Abdominal spots can be indistinct (Fig. 2).

Female. Total length 2.85. Carapace 1.03 long, 0.78 wide. Colouration and pattern as in male but darker (Fig. 4). Abdomen can have additional light caudal spot (Fig. 4). Spination: tibia I with 6 pairs of ventral spines, metatarsus I with 4 proventral and 3 retroventral spines; tibia II with 4 pairs of ventral spines, metatarsus with 4 proventral and 3 retroventral spines.

Leg measurements

	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.78	0.33	0.75	0.65	0.40	2.90
II	0.65	0.25	0.58	0.50	0.38	2.35
III	0.53	0.25	0.40	0.50	0.38	2.05
IV	0.83	0.35	0.78	0.80	0.48	3.23

Epigyne as in Figs 8–10; epigynal plate almost round, atrium almost round, slightly wider than long, posterior margin rebordered (*Rb*). Receptacles egg-shaped, approximately 1.2 times longer than wide.

Variation: total length 2.80–2.95, carapace 0.95–1.03 long, 0.75–0.78 wide.

Comment. Ten of 11 studied specimens were collected in April.

Distribution. So far, the species is known from northern Israel (new country record) and southern and northern Lebanon (O. P.-Cambridge, 1872) (Fig. 11).

References

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