

***Leptopholcus delicatulus* Franganillo, 1930**

Franganillo, P. B. 1930. Arácnidos de Cuba. Mas arácnidos nuevos de la Isla de Cuba. Mem. Inst. Nac. Mus. Hist. Nat. 1: 47-97.

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24. *Leptopholcus delicatulus* Frang. Hembras. Cefalotórax convexo, algo más ancho que largo. Esternón ovalado, ancho. Ojos como los de *L. signifer* E. Sim. Abdomen cilíndrico, cuatro veces más largo que el cefalotórax; próximamente de su cuarto posterior se desprende hacia abajo un mamelón cónico, que lleva las hileras.

Patatas muy largas y finísimas. Color del cuerpo y patas, blanco pálido.

Longitud del cefalotórax, 0,9 mm.

Longitud del abdomen, 3,9 mm; anchura, 5,5 mm
Sierra del Cuzco, Montañas de los Organos.

Franganillo, P. B. 1931. Excursiones aracnológicas, durante el mes de agosto de 1930. Revista 'Belen' 27-28, Año 6: 285-288.

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LEPTOPHOLCUS CONICUS Frang. Céfalotórax convexo, algo más largo que ancho; frente subcuadrada, truncada delante verticalmente. Largura del céfalotórax, 1mm.; anchura, 0,9 mm.

Los tres ojos laterales de cada lado están situados en las sienas. Los ojos medios anteriores, muy menudos.

ESTERNÓN muy ancho delante y estrechado detrás. CLÍPEO, alto y convexo.

ABDOMEN 4 veces más largo que el cefalotórax; casi cilíndrico hasta las hileras, desde donde se prolonga en forma de cono tan largo como la largura del céfalotórax.

PATAS 1-4-2-3; muy largas y finas con los tarsos flageliformes; las patelas cortas, dos veces más gruesas que los fémures. Estos y las tibias transparentes.

Todo el cuerpo y las patas de color claro.

Sierra de Rangel; Baracoa.

Franganillo P B 1934. Arácnidos Cubanos estudiados desde 1930 hasta 1934. Mem. Soc. Cubana Hist. Nat. 8(3): 154-168.

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LEPTOPHOLCUS CONICUS Frang.

1931, Revista "Belén", Habana, p. 286.

Céfalotórax convexo, algo más largo que ancho; frente subcuadrada, truncada delante verticalmente. Largura del céfalotórax, 1 mm.; anchura del mismo, 0.9, mm.

Los tres ojos laterales de cada lado están situados en las sienes. Los ojos medios anteriores muy menudos.

Esternón muy ancho delante y estrecho detrás.

Clípeo, alto y convexo.

Abdomen 4 veces más largo que el céfalotórax, casi cilíndrico hasta las hileras, desde donde se prolonga en forma de cono tan largo como el céfalotórax.

Patas: 1-4-2-3, muy largas y finas, con los tarsos flageliformes; las patelas cortas, dos veces más gruesas que los fémures. Estos y las tibias transparentes.

Todo el cuerpo y las patas de color claro.

Localidad: Sierra de Rangel, Baracoa.

Nota: El macho presenta sobre el abdomen 8 manchas negras, dispuestas en dos filas longitudinales.

Franganillo, P. B. 1936. Los Arácnidos de Cuba hasta 1936. Cultural, S. A., La Habana. 180pp.

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63. *Leptopholcus conicus* Frang. Cefalotórax convexo, algo más largo que ancho; frente subcuadrada, truncada delante verticalmente. Largura del céfalotórax, 1 mm.; anchura, 0.9 mm.

Los tres ojos laterales de cada lado están situados en las sienes. Los ojos medios anteriores, muy menudos.

Esternón muy ancho delante y estrechado detrás.

Clípeo, alto y convexo

Abdomen 4 veces más largo que el céfalotórax; casi cilíndrico hasta las hileras, desde donde se prolonga en forma de cono tan largo como la largura del céfalotórax.

Patas, 1-4-2-3; muy largas y finas, con los tarsos flageliformes; las patelas cortas, dos veces más gruesas que los fémures. Estos y las tibias transparentes.

Todo el cuerpo y las patas de color claro.

Sierra de Rangel; Baracoa.

Franganillo, P. B. 1936. Arácnidos recogidos durante el verano de 1934. Revista 'Belen' (1936): 75-82.

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160. *LEPTOPHOLCUS CONICUS* Frang., sp. nov. Véase la revista *Belén*, Habana, 1931, pág. 286. Es muy abundante en Cuba debajo de las hojas de las matas.

Se parece mucho al *Micromerys daley* Petrunkevitch, de Puerto Rico; mas el *Leptopholcus conicus* Frang., tiene 8 ojos, mientras que el otro sólo presenta 6.

Sinonimia: *Leptopholcus delicatulus* Frang., 1930.

Bryant, E. B. 1940. Cuban spiders in the Museum of Comparative Zoology. Bull. Mus. comp. Zool. 86(7): 247-532; pl. 1-22.

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MICROMERYS DALEY Petrunkevitch

Micromerys daley Petrunkevitch, 1929, p. 150, figs. 144-148.

Leptopholcus delicatulus Franganillo, 1930, p. 15.

Leptopholcus conicus ibid., 1931, p. 286; ibid., 1934, p. 153; ibid., 1936, p. 46.

Male. Length, 3.3 mm., ceph. 0.6 mm., abd. 2.8 mm.

Cephalothorax pale, wider than long, anterior margin truncate, low with no thoracic groove; eyes, a.m.e. small black dots, separated by at least three diameters, other eyes subequal on a low tubercle, in two widely separated groups, connected by a ridge; clypeus vertical, narrow; mouth parts weak; sternum as wide as long; abdomen cylindrical, very long and narrow, pale with four pairs of elongated dark spots, abdomen continued beyond the spinnerets in a short lobe; legs, several missing, very long and slender, tarsi very short; palpus pale, trochanter produced in a long slender spine at an angle to femur; femur from a narrow base, suddenly enlarging, patella short, tibia long and swollen, cymbium with a long L-shaped process, flattened with a dark brown margin, tip truncate, inner margin hyaline with a scant fringe of long hairs, bulb pale, relatively small, less than half as large as tibia, with two very dark processes, one of which is flattened with a serrate margin and ends in a long slender point.

Female. Length, 5.2 mm., ceph. 0.8 mm., abd. 4.2 mm.

Cephalothorax pale, flat and low, wider than long, (7:6), no thoracic groove; eyes as in male but lateral tubercles not as high; mouth parts weak; sternum wider than long, (4:3); abdomen five times as long as cephalothorax, cylindrical and very slender, pale, no markings, with a constriction about the middle, venter pale; abdomen extends beyond the spinnerets; anterior legs missing, legs very long and slender, tarsi short; epigynum covers a large area but because it is so faintly chitinized, it is impossible to trace various parts, possibly because it lacks one moult of maturity.

♂ Cuba; Oriente, Los Llanos, 1,000–2,000 feet, 16–20 July, 1936, (Darlington).

♀ Cuba; South Side of Pico Turquino, 3,000–5,000 feet, June, 1936, (Darlington).

The genus *Leptopholcus* was established by Simon in the Hist. Nat. Araignées, 1893, 1, p. 474, for two species, one from East Africa and the other from Ceylon. It differs from *Micromerys* in the presence of two very small a.m.e. The Cuban specimens have these eyes reduced almost to pin-points. Through the kindness of Dr. Petrunkevitch, immature specimens of *Micromerys dalei* from Puerto Rico have been compared with the Cuban specimens. The palpus agrees perfectly with the figures of *M. dalei*.

Franganillo described *Leptopholcus delicatulus* in 1930 from females collected at Sierra del Cuzco and compared the eyes with the figures of *L. signifer* Simon. The following year, he described a second species, *L. conicus*, from the Sierra de Rangel, and in 1936 he republished the description of the latter in "Los Aracnidos de Cuba hasta 1936" but he failed to mention the first species described. The two are probably the same, as the differences consist principally in the color pattern.

Currently, only one species of the predominantly Old World genus *Leptopholcus* Simon 1893 is thought to occur in America: *L. dalei* (Petrunkevitch 1929), supposedly present both in Puerto Rico and in Cuba. The present paper shows that at least two species that were erroneously synonymized inhabit the two islands: the Puerto Rican *L. dalei* and the Cuban *L. delicatulus* Franganillo 1930. Only the Cuban species, which has never been illustrated, is treated in detail in the present note. *L. dalei* has been redescribed recently (Huber 1997) and is included only to the extent necessary for distinguishing the two species.

Leptopholcus delicatulus Franganillo 1930
(Figs. 1–21)

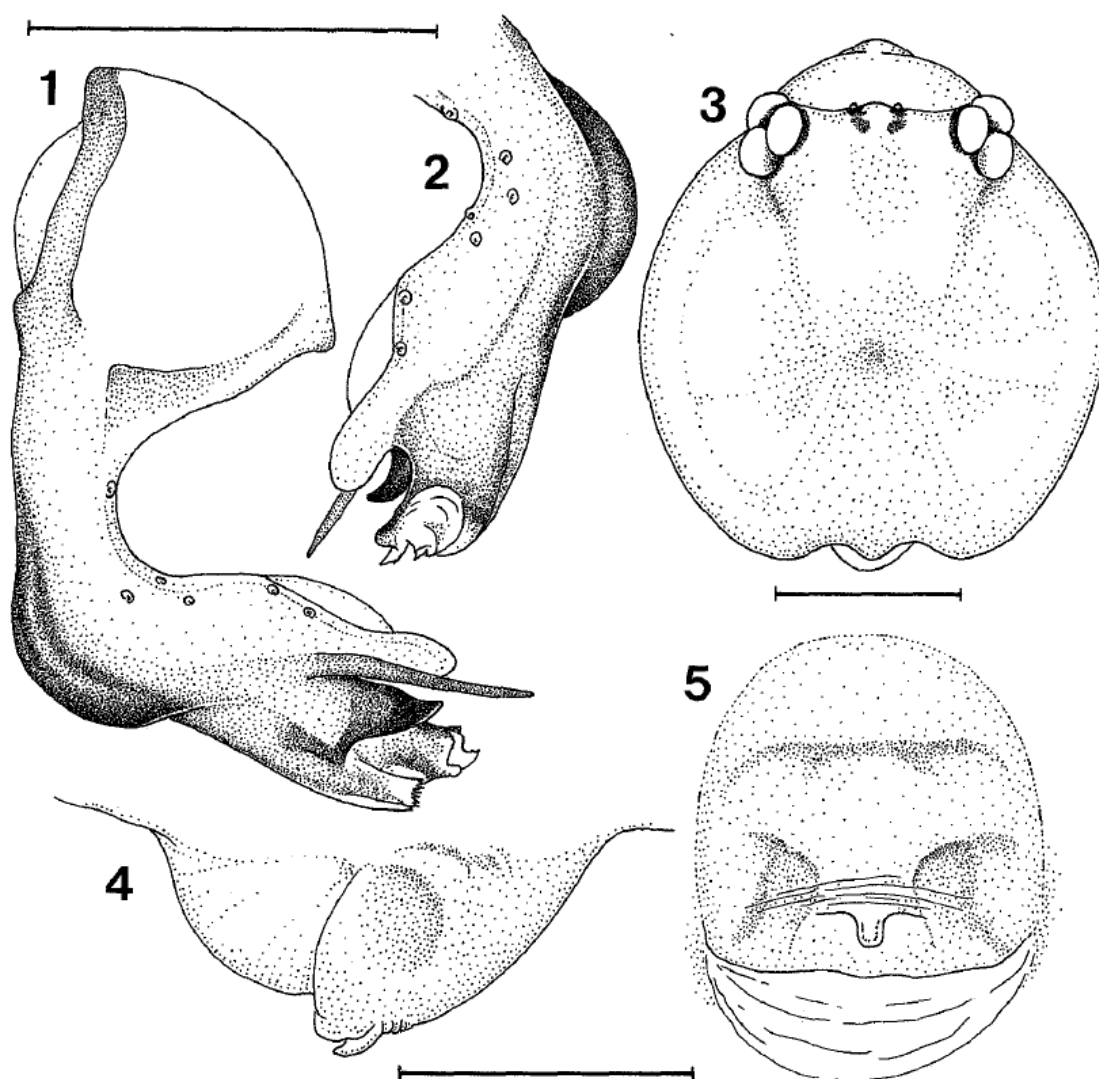
- L. delicatulus* Franganillo 1930: 59; ♀ lectotype (designated herein) and 5 ♀ paralectotypes, Cordillera de Guaniguanico: Sierra del Cuzco and Montañas de los Organos (Franganillo 1930), Cuba, IES (#208), *vidi*.
L. conicus Franganillo 1931: 286 (types probably lost, see note below); type localities: Cordillera de Guaniguanico: Sierra de Rangel, and Prov. Guantánamo: Baracoa (Franganillo 1931); Franganillo 1934: 153; 1936a: 46; 1936b: 78.
Micromerys dalei, -Bryant 1940: 296–297, 1 ♂ from Oriente: Los Llanos, and 1 ♀ from Pico Turquino (material probably lost, see Discussion).

Note.—The collection of P. Franganillo is currently deposited in the Instituto de Ecología y Sistemática, La Habana, Cuba. The vials are only numbered, contain no further labels, and the catalog is lost. This collection contains a single lot of adult *Leptopholcus* females, which we presume is the type series of *L. delicatulus* because this is the species described only from females, whereas *L. conicus* was described from males and females. There are no male *Leptopholcus* in the collection, and no further lots that could be assigned to *L. conicus*. Thus, we assume that the type ma-

terial of *L. conicus* is probably lost. The assumption that the two species are synonyms is based first on our study of other material from several Cuban localities, including sites that are very near to the type localities of both species in the westmost and eastmost provinces (see below), and second on Franganillo's (1936b) own judgement (he erroneously gave precedence to the junior synonym, *L. conicus*).

Diagnosis.—Pale, medium-sized (about 4–5 mm total length) pholcid with long cylindrical opisthosoma. Most characters of *L. delicatulus* closely agree with *L. dalei* Petrunkevitch 1929 (see Petrunkevitch's (1929) detailed original description, and the redescription in Huber (1997) which also lists the type and non-type material of *L. dalei* studied by the first author and used for the present comparison). However, the distal processes of the procurus, an apophysis of the pedipalpal tarsus that is inserted into the female during copulation in all pholcids studied (review in Huber & Eberhard 1997) differ significantly, both in number and shape (Figs. 1, 2, 6, 7). The anterior median eyes are always clearly visible as vestiges in *L. delicatulus* (Fig. 3) with lenses of about 12–16 µm diameter (the other eyes measure 80–90 µm), while they are absent in *L. dalei* (Fig. 8). There seem to be some other minor differences, but these need to be tested on larger samples: in *L. dalei* the epigynum may be wider (Figs. 5, 10; but: Fig. 17) and the epigyneal knob larger (Figs. 4, 5, 9, 10), the carapace seems to be less round (Figs. 3, 8), the pedipalps may be relatively smaller, and the trochanter-apophyses may be more curved.

Redescription.—As stated above, the present species is very similar to the well described *L. dalei*. The present redescription thus concentrates on previously neglected



Figures 1-5.—*Leptopholcus delicatulus* Franganillo 1930, diagnostic characters. 1, Left cymbium with procursus, prolateral view; 2, Left procursus, retrolateral view; 3, Female prosoma, dorsal view; 4, Epigynum, lateral view; 5, Epigynum, ventral view. Scale bars = 0.3 mm.

characters and on measurements of type and non-type material.

Male chelicerae with two pairs of apophyses (Fig. 11). Genital bulb with prominent apophysis accompanying the embolus (Fig. 12). Tip of procursus with a complex system of projections (Figs. 13, 14). Pedipalpal tarsal organs as shown in Figs. 15 (female) and 16 (male). Epigynum as in Fig. 17. Male genital opening with four epiandrous spigots (Fig. 18). Anterior median spinnerets with several spigots (Fig. 19), posterior median spinnerets with a single pair of spigots each (Fig. 20) (there was no obvious sexual dimorphism in the spinnerets).

Measurements of female lectotype (mm): prosoma width: 0.8, prosoma length: 0.8,

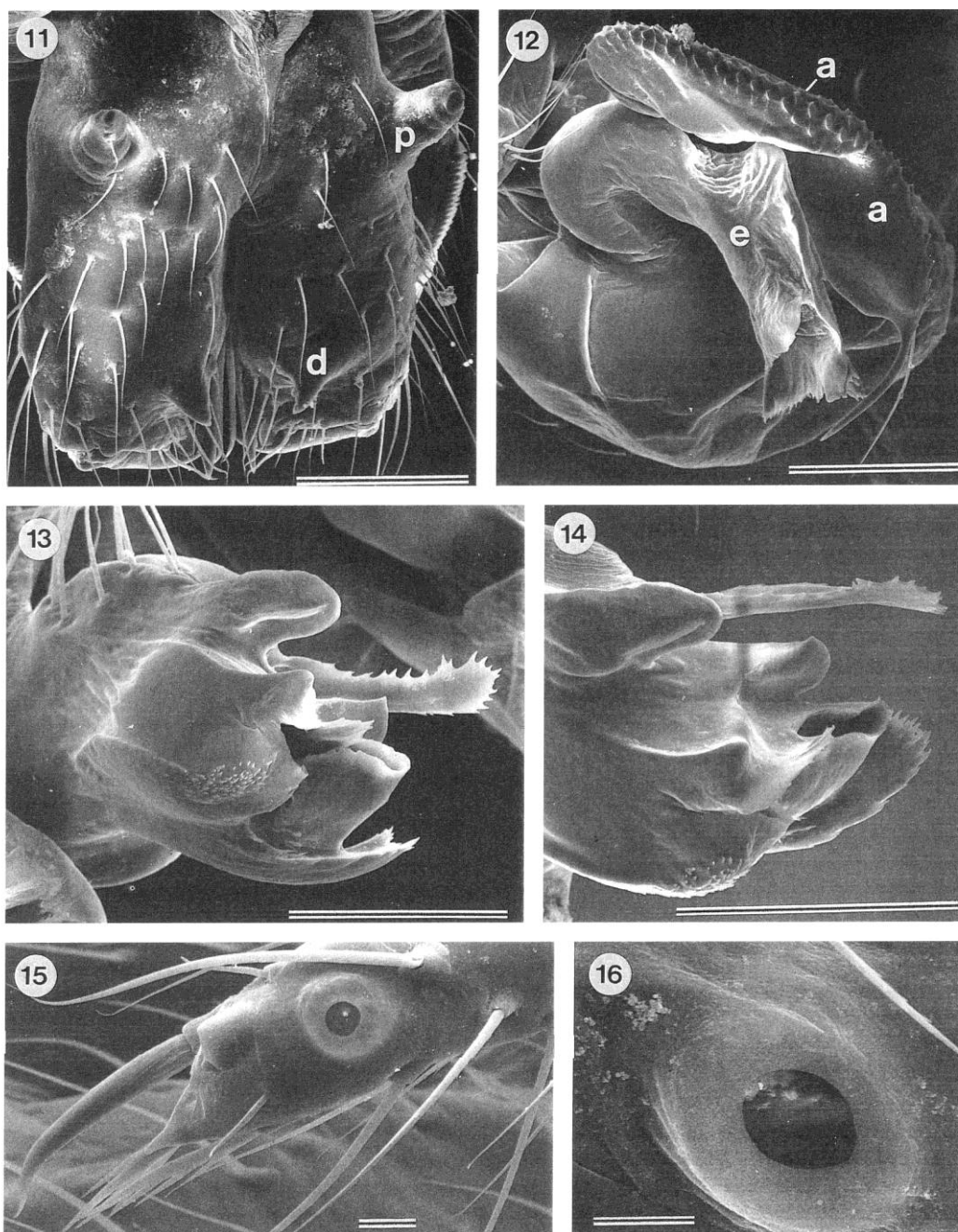
opisthosoma length: 3.5; legs (Total—Fem, Pat, Tib, Met, Tar): I (23.1—5.8, 0.3, 5.4, 9.9, 1.7), II (14.7—4.2, 0.3, 3.5, 5.8, 0.9), III (9.7—3.0, 0.3, 2.2, 3.5, 0.7), IV (15.7—4.9, 0.3, 3.7, 5.9, 0.9). Measurements of a male from Sierra de San Carlos (mm): prosoma width: 0.9, prosoma length: 0.9, opisthosoma length: 3.9; legs (Total—Fem, Pat, Tib, Met, Tar): I (33.3—8.1, 0.4, 8.0, 14.8, 2.0), II (21.4—5.7, 0.4, 5.5, 8.8, 1.0), III (13.8—4.1, 0.4, 3.4, 5.2, 0.7), IV (20.9—6.2, 0.4, 5.2, 8.2, 0.9). Tibia 1 length in other material (mm): 8♂: 6.0—7.5 ($\bar{x}$ = 6.9); 16♀: 4.9—6.3 ($\bar{x}$ = 5.7).

Distribution.—Figure 21 suggests that *L. delicatulus* has a wide distribution in Cuba. The same is true for *L. dalei* in Puerto Rico.

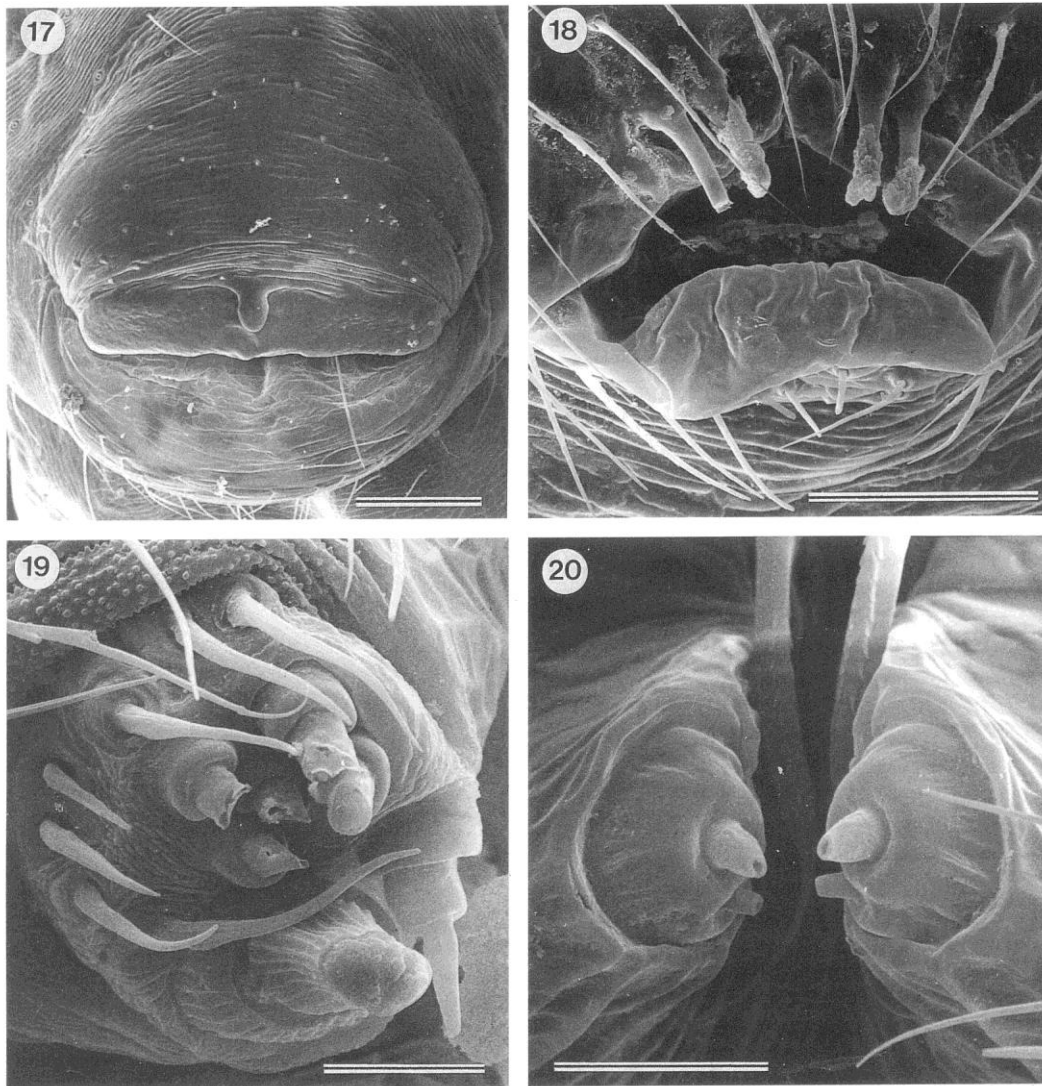
However, neither species nor any other *Leptopholcus* has so far been recorded from any of the nearby islands.

Material examined.—(IES: Instituto de Ecología y Sistemática, La Habana, Cuba; ColKarst: collection of BioKarst of the Sociedad Espeleológica de Cuba; AMNH: American Museum of Natural History, New York): **CUBA:** *Prov. Pinar del Río:* ♀ lectotype and 5 ♀ paralectotypes from Cordillera de Guaniguanico (no collection data) (collection P. Franganillo, #208, IES). 1 ♂ from Sierra de San Carlos, Mogote de la cueva La Viñalera, 9 March 1994 (A. Pérez González) (IES). 1 ♂ 1 ♀ from Sierra de San Carlos, Hoyo de los Helechos, 16 February 1991 (A. Pérez González) (IES). 4 ♀ from entrance

to Las Dos Anas cave, Majaguas-Cantera cave system, Sierra de San Carlos, 17 March 1991 (A. Pérez González) (ColKarst). 1 ♀ from Mogote el Moncada, 14 March 1976 (R. Rodríguez Soberón). *Prov. Habana:* 1 ♂ from the bank of the Cojimar River, Cojimar, Ciudad de La Habana, Cuba, 26 June 1996 (A. Pérez González) (IES). *Prov. Sancti Spiritus:* 1 ♀ from 1 km N Batey del Medio, Meneses, Cuba, May 1978 (L.F. de Armas). *Prov. Guantánamo:* 6 ♂ 6 ♀ from Vazquez, Riito, National Park Alejandro de Humboldt, 10 February 1997 (A. Pérez González), 1 ♂ 1 ♀ deposited in AMNH, rest in IES. 1 ♀ from El Poal, Jaguaní River, National Park Alejandro de Humboldt, 10 August 1992 (A. Pérez González), in coll. B.A. Huber; 2 ♂ 3 ♀ from same lo-



Figures 11–16.—*Leptopholcus delicatulus* Franganillo 1930. 11, Male chelicerae, showing proximal (p) and distal (d) apophyses; 12, Genital bulb, with embolus (e) and accompanying apophysis (a); 13, 14, Tip of procursus, approximately retrolateral view; 15, Tip of female pedipalp with tarsal organ; 16, Male pedipalpal tarsal organ. Scale bars = 0.1 mm (11–14); 0.01 mm (15, 16).



Figures 17–20.—*Leptopholcus delicatulus* Franganillo 1930. 17, Epigynum, ventral view; 18, Male genital opening with epiandrous spigots; 19, Female right anterior spinneret; 20, Female posterior median spinnerets. Scale bars = 0.1 mm (17); 0.05 mm (18); 0.01 mm (19, 20).

cality, 8, 11 & 16 August 1992 (A. Pérez González, M. Estrada) (IES).

Natural history.—The present species is apparently restricted to humid forests, and seems to prefer glens to crests. It has been collected at elevations ranging from sea level (Cojimar) to about 1500 m (Pico Turquino—Bryant 1940). During the day the apparently noctactive spiders sit on the underside of leaves, pressing their body against the surface and extending the legs.

Discussion.—Bryant (1940) synonymized

the two Cuban species with the Puerto Rican *L. dalei* Petrunkevitch 1929. Her own Cuban material could not be found at the Museum of Comparative Zoology, and might therefore be lost. We consider it *L. delicatulus* primarily because of the presence of anterior median eyes (Bryant 1940). Bryant decided on the synonymy after comparing her specimens with Petrunkevitch's (1929) drawings. Though these drawings are good, they do not show sufficient detail of the procurus, which is evidently the reason for Bryant's error.

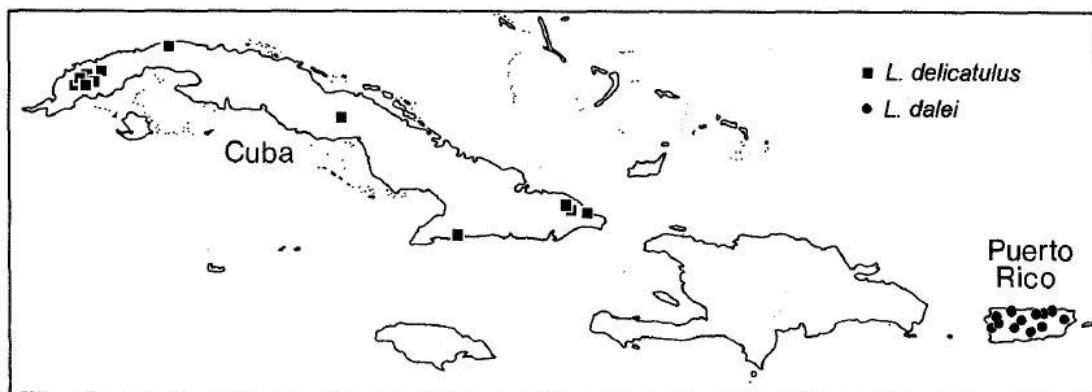


Figure 21.—Geographic distribution of the two known American *Leptopholcus* species. The localities included are those from the present paper, Franganillo (1930, 1931), and Bryant (1940) for *L. delicatulus*, and those from Petrunkevitch (1929) and Huber (1997) for *L. dalei*.

Leptopholcus dalei has been redescribed recently in order to clarify its distant relationship with American “Micromerys” and *Metagonia* (Huber 1997). As stated in that paper for *L. dalei*, the generic position of *L. delicatulus* is beyond the scope of the present note. In fact, judging by the male bulb, African *Leptopholcus* appear closer to *Pholcus* than to the two American *Leptopholcus* species (cf. Brignoli 1980; Uhl et al. 1995; Huber 1997; and this note).

Huber, B. A. 2000. New World pholcid spiders (Araneae: Pholcidae): a revision at generic level. *Bull. Amer. Mus. Nat. Hist.* 254: 1-348.

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Leptopholcus delicatulus Franganillo, 1930
Figures 291–294, 306

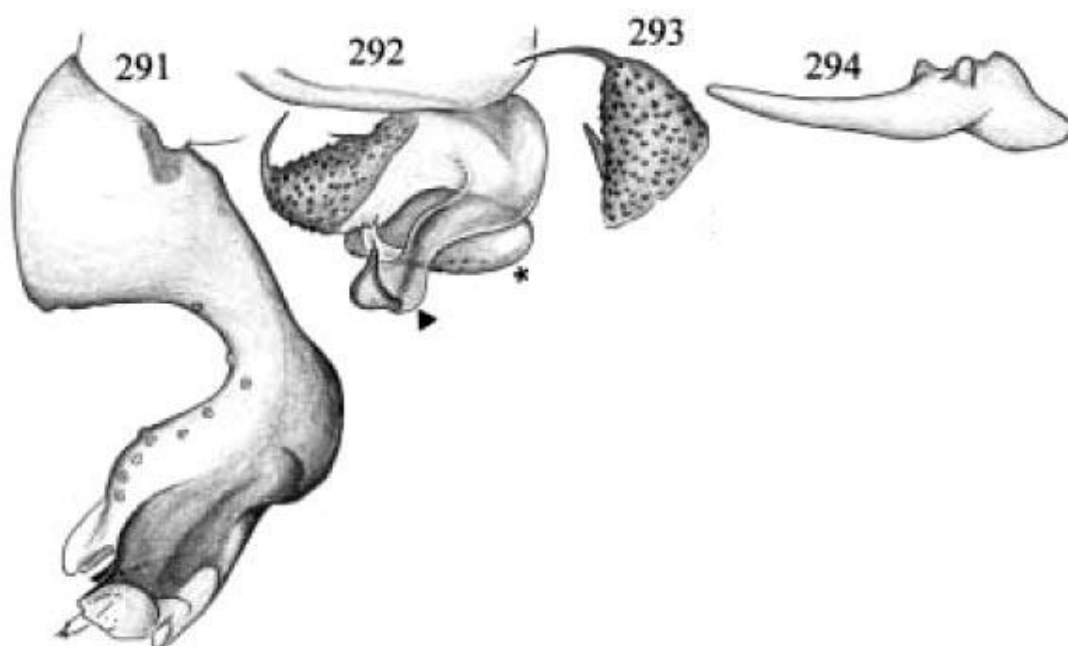
Leptopholcus delicatulus Franganillo, 1930: 59. —
Huber and Pérez González, 1998: 251–256,
figs. 1–5, 11–21.

Leptopholcus conicus Franganillo, 1931: 286. id.
1934: 153. id. 1936a: 46. id. 1936b: 78 (first
synonymized by Franganillo 1936b, erroneous
preference of junior synonym).

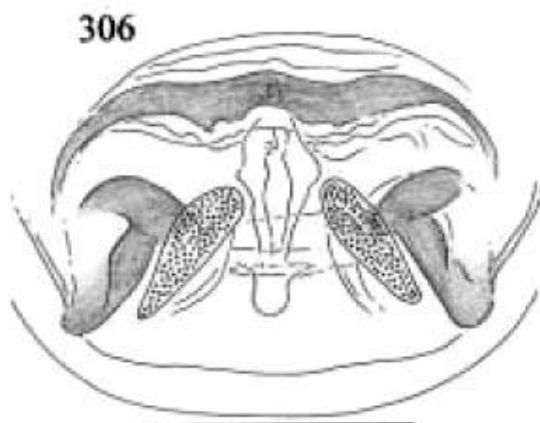
Micromerys dalei: Bryant, 1940: 296–297 (erro-
neous synonymization of *delicatulus* with *dalei*).

NEW RECORDS: CUBA: Oriente: S. Vi-
cente, Caney, Nov. 1956 (no collector given),
2♂ in AMNH. Cuabitas, Santiago de Cuba,
Dec. 18, 1955 (collector not given), 1♀ in
AMNH.

NOTE: Bryant’s (1940) material was re-
cently thought to be lost (Huber, 1997a, Hub-
er and Pérez González, 1998), but it has re-
surfaced at the AMNH, and will be returned
to the MCZ.



Figs. 291–305. *Leptopholcus* spp. from the Antilles, male diagnostic characters. 291–294. *L. delicatulus* Franganillo. 291. Left procursus, retrolateral view. 292. Bulbal projections (left bulb). 293. Bulbal “appendix.” 294. Left palpal trochanter, retrolateral view.



Figs. 306–309. *Leptopholcus* spp. from the Antilles, female internal genitalia, dorsal views. 306. *L. delicatulus* Franganillo. Scale lines: 0.2 mm.