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RESEARCH NOTE

LEPTOPHOLCUS DELICATULUS (ARANEAE, PHOLCIDAE) IS A VALID NAME

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.

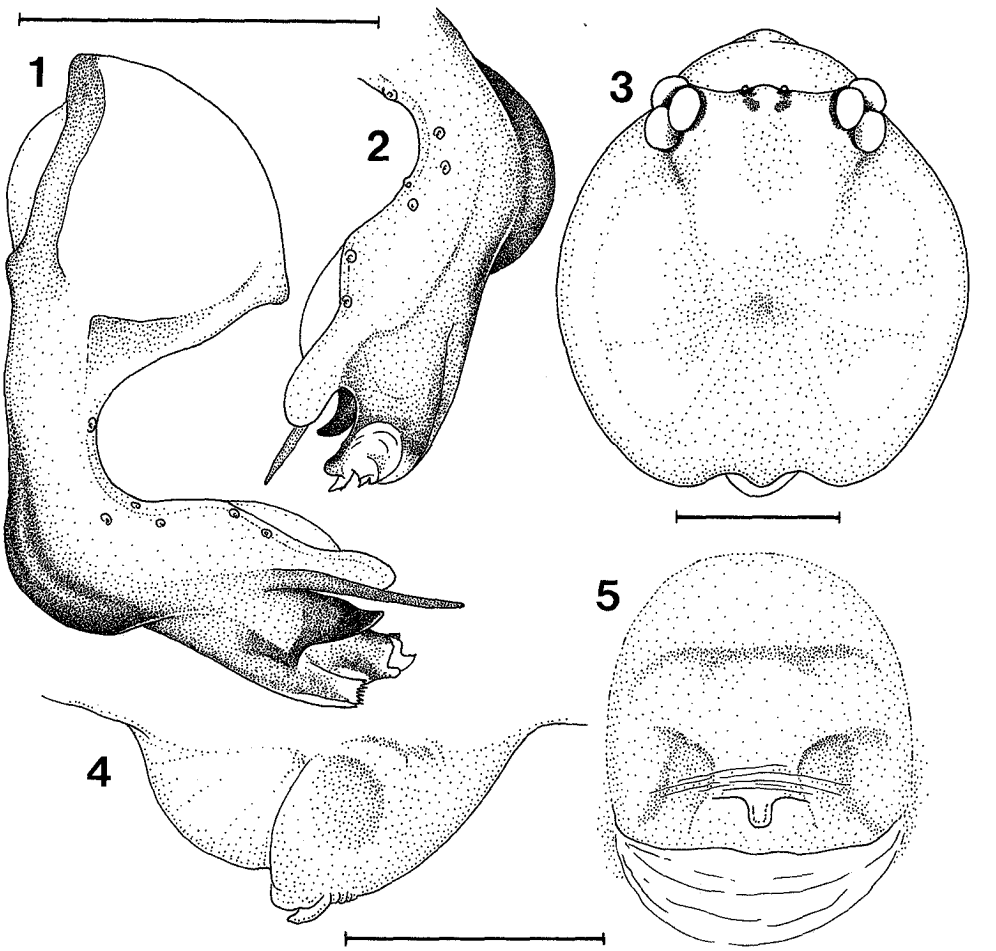
L. conicus Franganillo 1931: 286 (types probably lost, see note below); type localities: Cordillera de Guaniguanico: Sierra de Rangel, and Prov. Guantánamo: Baracoa (Franganillo 1931); Franganillo 1934: 153; 1936a: 46; 1936b: 78.

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 Sistematica, 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 material 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 procursus, 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



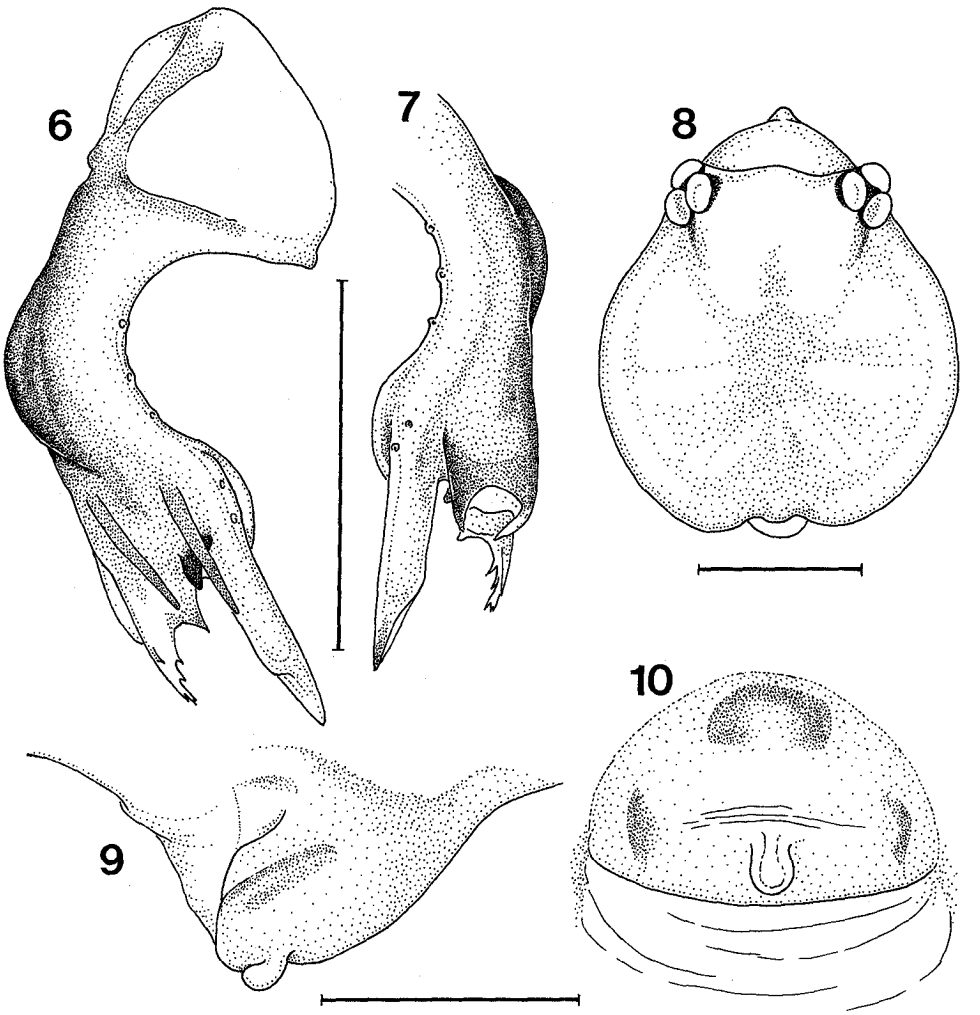
Figures 1–5.—*Leptopholcus delicatulus* Franganillo 1930, diagnostic characters. 1, Left cymbium with procursus, prolateral view; 2, Left procursus, retrolateral view; 3, Female prosoma, dorsal view; 4, Epigynum, lateral view; 5, Epigynum, ventral view. Scale bars = 0.3 mm.

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).

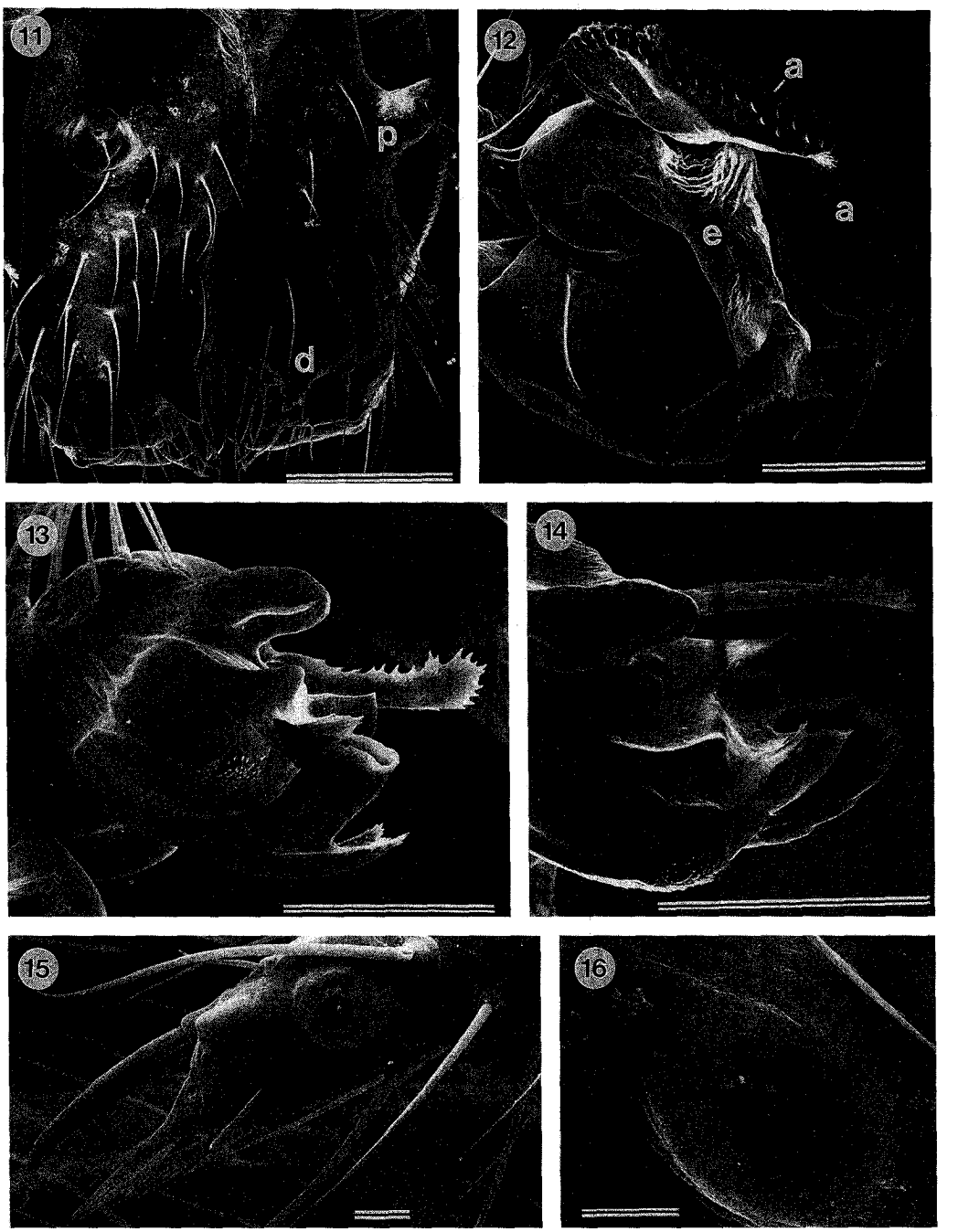
Distribution.—Figure 21 suggests that *L. delicatulus* has a wide distribution in Cuba. The same is true for *L. dalei* in Puerto Rico.



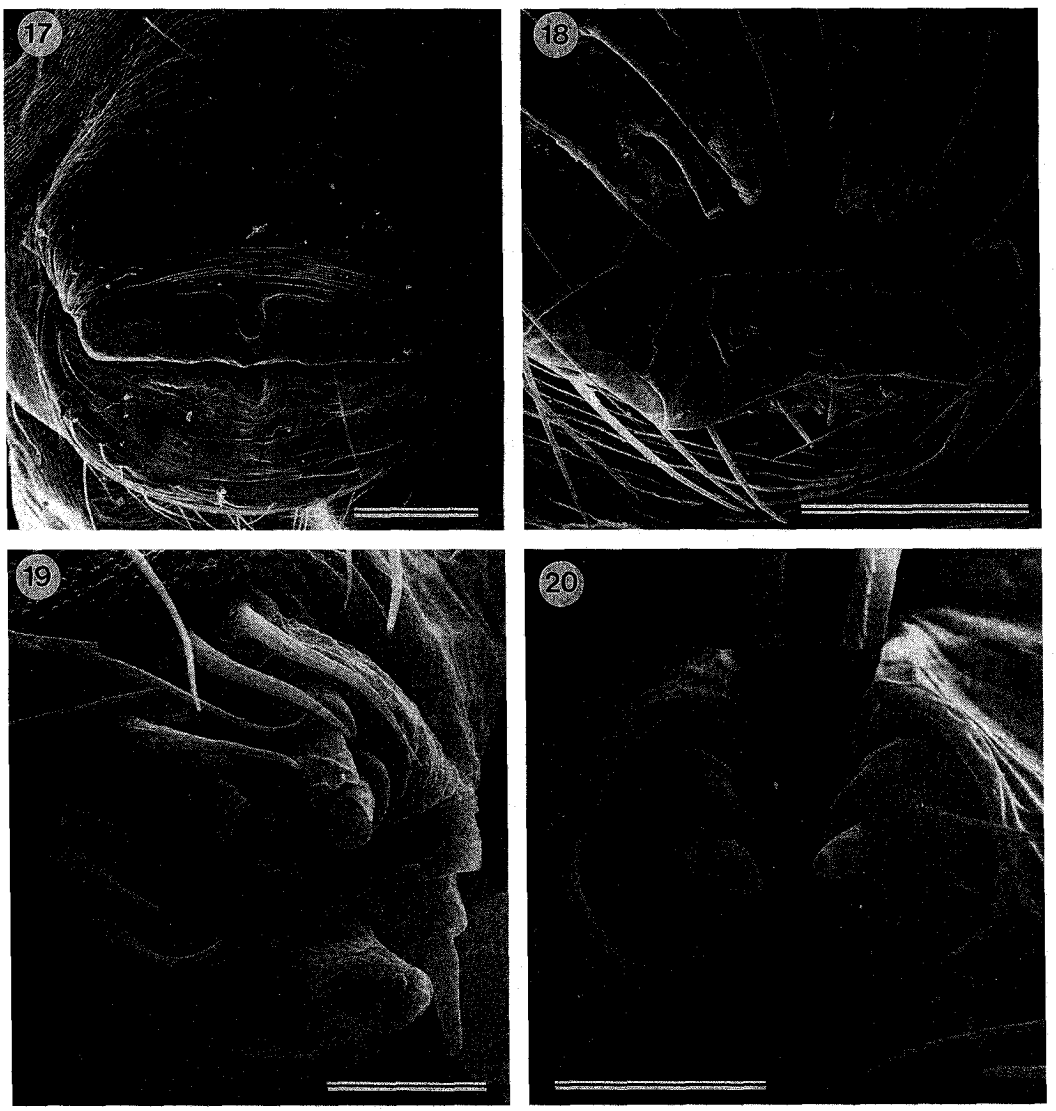
Figures 6–10.—*Leptopholcus dalei* (Petrunkevitch 1929), diagnostic characters. 6, Left cymbium with procursus, prolateral view; 7, Left procursus, retrolateral view; 8, Female prosoma, dorsal view; 9, Epigynum, lateral view; 10, Epigynum, ventral view. Scale bars = 0.3 mm.

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 Sistematica, 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 nightactive 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 procursus, which is evidently the reason for Bryant's error.

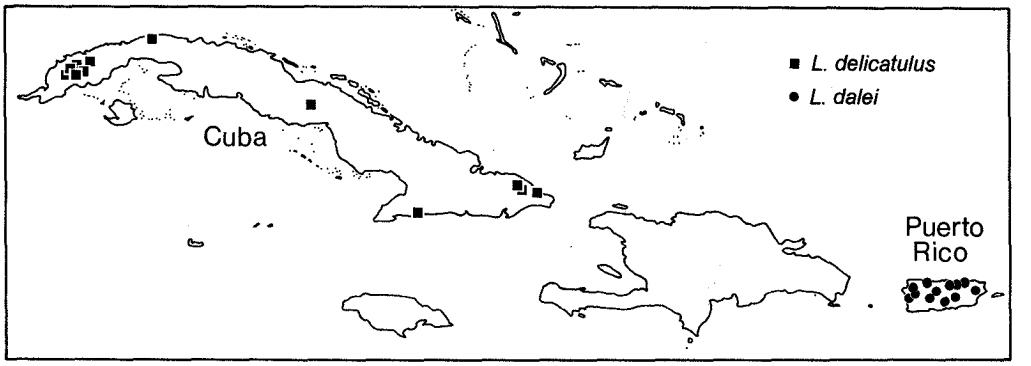


Figure 21.—Geographic distribution of the two known American *Leptopholcus* species. The localities included are those from the present paper, Franganillo (1930, 1931), and Bryant (1940) for *L. delicatulus,* and those from Petrunkevitch (1929) and Huber (1997) for *L. dalei.*

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).

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