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Chapter 47

PHOLCIDAE

12 genera, 34 species

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Common name —

Cellar spiders, daddylongleg spiders.

Similar families —

Hypochilidae (p. 120).

Diagnosis —

Small to medium (1-10 mm), three-clawed, ecribellate, haplogyne spiders, with six or eight eyes; prosoma about as long as wide, clypeus about as high as chelicerae; male palp with prominent retrolateral paracymbium ('procurus'), male chelicerae usually with sexual modifications; tarsi usually pseudosegmented.

Characters —

body size: 1.0-10.0 mm.

color: usually ochre-yellow to light brown, often with brown or black markings.

carapace: about as long as wide, with or without median indentation.

eyes: ALE and posterior eyes forming triads; AME present or absent.

chelicerae: chelate, with lamina opposing fang; male chelicerae usually sexually modified.

mouthparts: labium fused to sternum.

legs: often very long, tarsi usually pseudosegmented, with three claws.

abdomen: cylindrical to globular.

spinnerets: ALS large and cylindrical, PMS small and partly hidden by flattened PLS.

respiratory system: one pair of book lungs; tracheal spiracle often seems present, but tracheae are absent.

genitalia: haplogyne; **female** usually with sclerotized plate (flat or sculptured) covering internal genitalia; **male** with large palps, paracymbium (procurus) often large and complex.

Distribution —

Widespread, highest diversity in southwestern USA, almost absent from Canada.

Natural history —

Indigenous pholcids are found mainly in dark spaces, under ground objects, in leaf and plant detritus, in soil openings and caves. Six of the twelve genera are represented by introduced species only, and these occupy corners and dark spaces in and around buildings. Long-legged species perform rapid vibrations when disturbed, presumably to avoid predation. Females carry the egg sacs in their chelicerae. Web structure varies from domed sheets with a network of irregular threads above (e.g., *Holocnemus*, *Artema*), to tangled spacewebs without any apparent design (e.g., *Pholcus*), to a few lines close to the substrate (e.g., *Pholcophora*). Short-legged species can run quickly.

Taxonomic history and notes —

The taxonomy of Nearctic pholcids is mainly based on scattered species descriptions accumulated over the last 160 years. This is especially true for the two most diverse genera

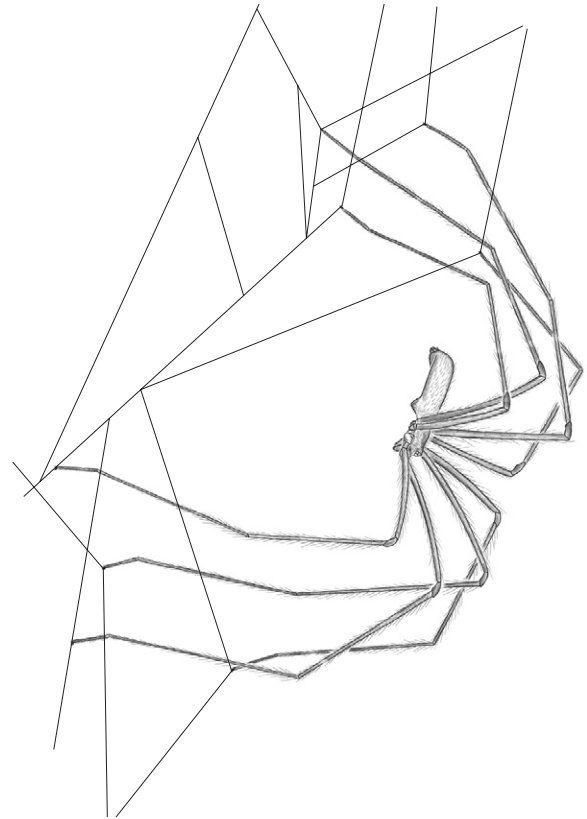


Fig. 47.1 *Pholcus phalangioides* (FUESLLIN 1775)

in the region, *Psilochorus* and *Physocyclus*, both of which have been severely neglected for about a half century and are in urgent need of revision.

Genera —

PHOLCINAE

Micropholcus DEELEMAN-REINHOLD & PRINSEN 1987, *Pholcus* WALCKENAER 1805, *Spermophora* HENTZ 1841a

NEW WORLD CLADE

Modisimus SIMON 1893d, *Psilochorus* SIMON 1893a

NINETINAE (possibly not monophyletic)

Chisosa HUBER 2000, *Pholcophora* BANKS 1896

"HOLOCNEMINAE" (very probably not monophyletic)

Artema WALCKENAER 1837, *Crossopriza* SIMON 1893a, *Holocnemus* SIMON 1873a, *Physocyclus* SIMON 1893a, *Smeringopus* SIMON 1890a

**Key to genera —
North America North of Mexico**

* *Metagonia* is not included because the only record from the USA was one specimen in a banana bunch from Mexico (Gertsch 1986: 41).

- 1 Short-legged: tibia I < body length; retrolateral trichobothria on tibiae of walking legs very distal (at about 60% of tibia length); tibia I length/diameter: 10-25 2
- Long-legged: tibia I ≥ body length; retrolateral trichobothria on tibiae of walking legs proximal (at < 40% of tibia length); tibia I length/diameter: >30 3

- 2(1) Procursus massive and complex (Fig. 47.2); male sternum without anterior humps; carapace without median indentation; tiny spider (about 1.5 mm body length) ***Chisosa***

Div. 1 species: *Chisosa diluta* (GERTSCH & MULAİK 1940) — Dist. only TX, Big Bend National Park — Refs. Gertsch & Mulaik 1940, Gertsch 1982b, Huber 2000 — Note previously in *Pholcophora*, transferred by Huber (2000)

- Procursus simple; male sternum with pair of anterior humps (Fig. 47.3); carapace with shallow median groove .

..... ***Pholcophora***
Div. 2 species: *Pholcophora americana* BANKS 1896e (widespread) and *Pholcophora texana* GERTSCH 1935a (only TX) — Dist. w. USA and southwestern CAN — Refs. Banks 1896e, Chamberlin & Ivie 1935b, Gertsch 1935a, 1982b, Gertsch & Mulaik 1940, Huber 2000 — Note a third species, *Pholcophora obscura* CHAMBERLIN & IVIE 1935b, was synonymized under *Pholcophora americana* by Gertsch (1982b)

- 3(1) Carapace without median invagination; palpal trochanter with retrolateral projection; male chelicerae with lateral projections proximally (Fig. 47.4) 4
- Carapace with median groove 6
- Carapace with pit, i.e. rounded indentation behind ocular area 8

- 4(3) Six eyes (AME missing), small pale spider ***Spermophora***

Div. 1 species: *Spermophora senoculata* (DUGES 1836a) — Dist. widespread — Refs. Hentz 1841a, Emerton 1882, Petrunkevitch 1910, Gertsch & Mulaik 1940, Kaston 1948, 1977, Schenkel 1950b, Huber 2002 — Note introduced Old World species; mainly in houses; *Spermophora meridionalis* HENTZ 1841a synonymized by Yaginuma (1974a)

- Eight eyes, AME small but well developed 5

- 5(4) Abdomen oval to globular, procurus with distinctive dorsal sclerite (Fig. 47.5), female genitalia with distinctive median structure shining through cuticle (Fig. 47.6) ***Micropholcus***

Div. 1 species: *Micropholcus fauroti* (SIMON 1887e) — Dist. Southern USA — Refs. Gertsch & Mulaik 1940, Roth 1985, Deeleman-Reinhold & Prinsen 1987 — Note introduced Old World species; *Pholcus unicolor* PETRUNKEVITCH 1929b synonymized by Roth (1985)

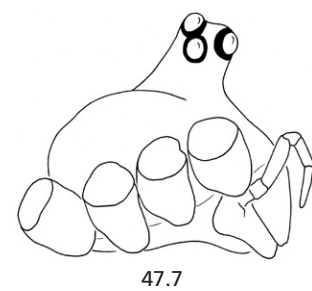
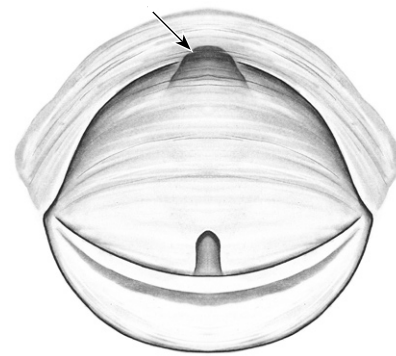
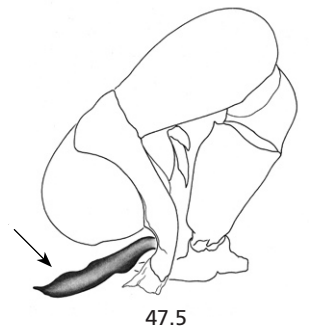
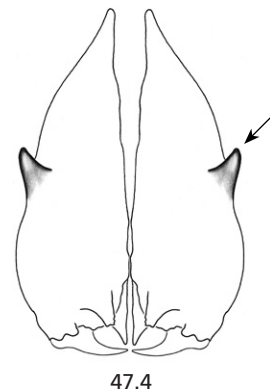
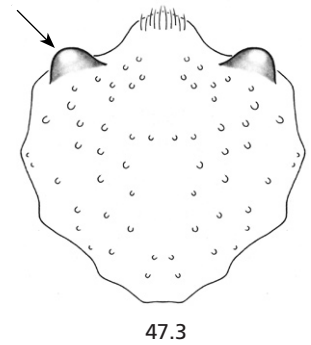
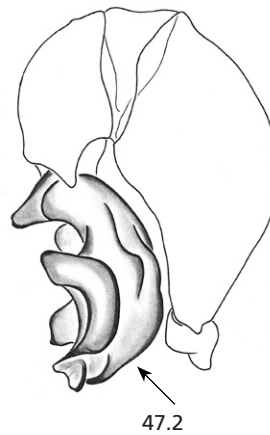
- Abdomen elongated ***Pholcus***

Div. 3 species: *Pholcus phalangioides* (FUSSLIN 1775), *Pholcus muralicola* MAUGHAN & FITCH 1976, and *Pholcus manueli* GERTSCH 1937, plus several undescribed — Dist. *Pholcus phalangioides* widespread, *Pholcus muralicola* in KS, other species mainly eastern USA endemics — Refs. Gertsch 1937, Kaston 1948, Maughan & Fitch 1976, Huber 2000, Senglet 2001

- 6(3) All eyes together on high median turret (Fig. 47.7); male femora densely covered with short vertical hairs ***Modisimus***

Div. 2 species: *Modisimus texanus* BANKS 1906b and *Modisimus culicinus* (SIMON 1893d), plus several undescribed — Dist. *Modisimus culicinus* widely distributed, others restricted to southwestern USA and FL — Refs. Banks 1906b, Gertsch & Mulaik 1940, Gertsch & Peck 1992, Huber 1997a, 1998e — Note includes *Hedypsilus* (synonymized by Huber 1997a)

- Ocular area moderately elevated; very few short vertical hairs on male femora 7



- 7(6) Body size usually < 4 mm, male palpal femur slender with pointed apophysis ventrally (Fig. 47.8), procurus slender and simple (Fig. 47.8); male chelicerae without stridulatory files

Psilochorus
 Div. 17 nominal species, plus several undescribed — **Dist.** w USA, e to OK, TX, only *Psilochorus pullulus* (HENTZ 1850b) in the southeast — **Refs.** Hentz 1850b, Thorell 1877c, Keyserling 1887b, Chamberlin 1919a, b, Banks 1921, Chamberlin & Gertsch 1928, Banks *et al.* 1932, Gertsch 1935a, Gertsch & Ivie 1936, Gertsch & Mulaik 1940, Chamberlin & Ivie 1942a, Schenkel 1950b, Agnew *et al.* 1985

- Body size usually > 4 mm, male palpal femur enlarged (Fig. 47.9) without pointed apophysis ventrally, procurus massive and more complex (Fig. 47.9), male chelicerae with stridulatory files

Physocyclus
 Div. 3 species + several undescribed — **Dist.** western USA, e to TX — **Refs.** Chamberlin 1921b, Chamberlin & Gertsch 1929, Gertsch 1935a, Gertsch & Mulaik 1940, Brignoli 1979c

- 8(3) Abdomen globular; very large pholcid with massive black modification on male chelicerae (Fig. 47.10), female genital plate flat with pair of dark areas (Fig. 47.11)

Artema
 Div. 1 species: *Artema atlanta* WALCKENAER 1837 — **Dist.** western USA — **Refs.** Gertsch 1935a, Brignoli 1981c — **Note** introduced Old World species

- Abdomen pointed dorso-posteriorly; male chelicerae with two pairs of distinctive apophyses (Fig. 47.12); female genital plate with distinctive median sclerotized area (Fig. 47.13)

Crossopriza
 Div. 1 species: *Crossopriza lyoni* (BLACKWALL 1867a) — **Dist.** southwestern and central USA — **Refs.** Roth 1985, Edwards 1993c, Huber *et al.* 1999, Guarisco & Cutler 2003 — **Note** introduced Old World species

- Abdomen cylindrical, not pointed dorso-posteriorly 9

- 9(8) Thoracic pit shallow, female sternum without posterior projection, female palp not widened, no pigment specks on legs

Smeringopus
 Div. 1 species: *Smeringopus pallidus* (BLACKWALL 1858a) — **Dist.** southwestern and southern USA — **Refs.** Roth 1985, Edwards 1993c — **Note** introduced Old World species

- Thoracic pit very deep, female sternum with posterior projection (Fig. 47.14), female palp distally widened (Fig. 47.15), pigment specks on legs

Holocnemus
 Div. 1 species: *Holocnemus pluchei* (SCOPOLI 1763) — **Dist.** southwestern USA — **Refs.** Roth 1985, 1994, Porter & Jakob 1990 — **Note** introduced Old World species

