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## Chapter 48

## PIMOIDAE

1 genus, 13 species

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## Similar families —

Pimoids are the sister group of the large family Linyphiidae (p. 124). The somatic morphology of *Pimoida* is similar to that of some linyphiid species (Fig. 48.1). Some species of *Meta* and closely related genera (Tetragnathidae, p. 230) are also similar to *Pimoida* in somatic morphology, but they can be easily distinguished by the web architecture (orb webs in the former genera). Larger species of the hahniid genus *Calymmaria* (p. 111) may cause confusion in the field as they have annulated legs, a superficially similar morphology, prefer the same habitats, and are common in much of *Pimoida*'s North American range.

## Diagnosis —

American species of *Pimoida* can be distinguished from other three-clawed, ecribellate, entelegyne spiders by the following combination of characters: autospasy at the patella-tibia junction, stridulatory striae on the ectal side of the chelicerae (absent in some species), male palp with retrolateral integral paracymbium, a retrolateral cymbial sclerite articulated by means of membrane, and a dorsoectal cymbial process with cuspsules and an alveolar sclerite (Figs. 48.2-48.4). Conductor and median apophysis are present in most species. The embolus is continuous with the tegulum (the typical linyphiid embolic division is absent) and has an elongated filiform or lamelliform embolic process (Fig. 48.3). The epigynum protrudes more than its width, has a dorsal to lateral fold or groove with the copulatory openings at the distal end (Figs. 48.5-48.6). The fertilization ducts are anteriorly oriented (Figs. 48.7-48.8).

## Characters —

**body size:** 5.0-12.0 mm.

**color:** brownish to grayish, with light marks (often chevron-like), usually with two light bands ventrally; legs often annulated.

**carapace:** pyriform, longer than wide, thoracic furrow a conspicuous ovate pit.

**sternum:** longer than wide, projecting behind coxae IV, usually darkly pigmented.

**eyes:** typical araneoid arrangement, lateral eyes juxtaposed, eyes usually surrounded by pigment.

**chelicerae:** large, with ectal stridulatory striae, three prolateral and one to four retrolateral teeth.

**mouthparts:** labium free, wider than long.

**legs:** long (particularly in adult males) and often annulated, setose with many macrosetae (two dorsal on femur IV), tarsi with 3 claws; leg formula 1243 (except in *Pimoida laurae* HORMIGA 1994a and *Pimoida edenticulata* HORMIGA 1994a). Autospasy at patella-tibia.

**abdomen:** oval.

**spinnerets:** typical araneoid (orbweavers and relatives) general appearance. Colulus large and fleshy, with setae. PMS and/or PLS aciniform spigot fields reduced to one or no spigots. Peripheral cylindrical spigot in PLS with an enlarged base (relative to the other cylindrical spigot). Functional PLS triplet present.

**respiratory system:** one pair of book lungs and simple, unbranched median tracheae (haplotracheate) with the

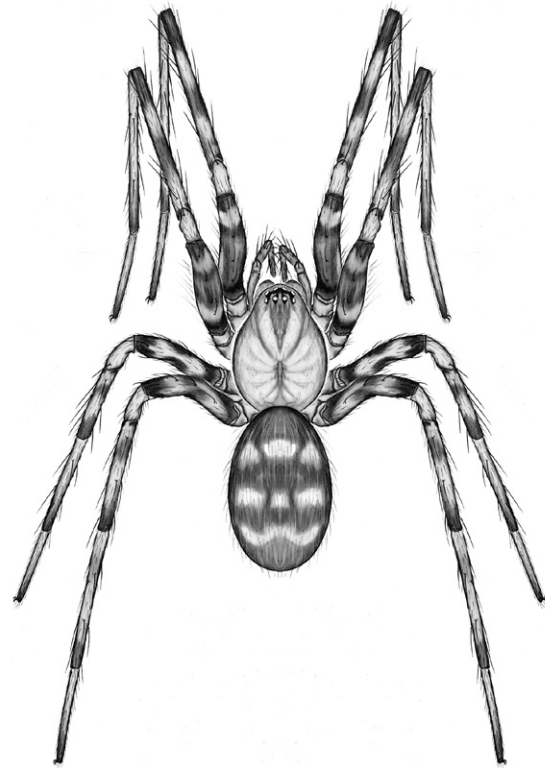


Fig. 48.1 *Pimoida curvata* CHAMBERLIN & IVIE 1943

spiracle just anterior to colulus.

**genitalia:** entelegyne; **female** epigynum protruding more than its width, with dorsal and ventral plates which have a groove at their margins (epigynal fold; Figs. 48.5-48.6). Epigynal fold distally bears the copulatory opening. Copulatory ducts varying in length and degree of sinuosity. Spermathecae usually spherical, with short and lightly sclerotized fertilization ducts running anteriorly (Figs. 48.7-48.8); **male** pedipalpal tibia with a rounded dorsal process, with 2-4 prolateral and 2-5 retrolateral trichobothria. Cymbium with alveolus in an eccentric position, close to the prolateral margin, provided with an alveolar sclerite (a small plate located on the ventral side of the cymbium, anteroectal to the distal margin of the alveolus; this sclerite appears as a dark sclerotized plate that lies between the distal end of the alveolus and the attachment of the pimoid cymbial sclerite). Paracymbium continuous with the retrolateral cymbial margin (Figs. 48.2, 48.4). Cymbium wide, with a relatively large retrolateral cymbial sclerite ("pimoid cymbial sclerite") attached to the cymbium by means of a membrane (Figs. 48.2, 48.4). Dorsum of cymbium with projection bearing

dark denticles or cuspsules in variable number (absent in *Pimoida edenticulata*). Tegulum large, more or less globular and bearing a membranous conductor and a small hook-shaped apophysis (median apophysis; absent in some species). Embolus long and filiform, curved following the margin of the tegulum. Embolus paralleled by a long process ("pimoid embolic process") sharing a common base with the embolus. The morphology of the pimoid cymbial sclerite, the denticulate cymbial process and the embolic process is species-specific.

#### Distribution —

Pacific coast between the 35<sup>th</sup> and 60<sup>th</sup> parallels, including the Sierra Nevada and Cascades, Idaho and western Montana (Bitterroot Range).

#### Natural history —

Pimoids build large sheet webs close to the ground (in some species up to one square meter in surface) in sheltered microhabitats such as fallen or hollow tree trunks and under overhanging cornices in banks and road cuts. Sometimes these spiders can be found in human made structures, such as sheds and outhouses. Several species can be found in caves. Pimoids are nocturnal, hunt on their webs at night and spend the daylight hours hiding in a retreat on the web's margin. Webs are often maintained for long periods of time and can show obvious signs of repair and senescence. Like linyphiids, pimoids hang from the under-surface of their webs.

#### Taxonomic history and notes —

The taxonomic history of pimoids, summarized by Hormiga (1994a, 2003), is rife with generic and familial transfers, with some species having been classified at some point in the families Linyphiidae (p. 124) and Tetragnathidae (p. 232). These taxonomic changes are a consequence of the unusual combination of primitive and derived characters of the male palp together with a number of somatic features shared by several araneoid families (Hormiga 1994a, 2003). Wunderlich (1986) erected the linyphiid subfamily Pimoinae to include the genera *Pimoida* and *Louisfagea* BRIGNOLI 1971d (the latter is now a junior synonym of the former) and Hormiga (1993) elevated the subfamily to family rank. Hormiga (1994a) analyzed the phylogenetic relationships of *Pimoida* species and monographed the family. Griswold *et al.* (1999b) have described a new species from China. More recently, Hormiga (2003) has described a new genus (*Weintrauboa* from Japan and adjacent islands), reassessed the synapomorphies supporting Pimoidae and the "linyphioid" (Pimoidae + Linyphiidae) monophyly and redefined the diagnosis of pimoids and linyphiids.

As currently defined, Pimoidae includes two genera and 24 described species. The family has a relictual distribution, with 13 species in western North America, two in southern Europe and nine in Asia (the Himalayas and adjacent areas and Japan). A key to the species of *Pimoida* is found in Hormiga (1994a).

#### Genus—

*Pimoida* CHAMBERLIN & IVIE 1943

