

Relationships: González-Sponga (1987) described some “phalangodids” under the genus *Phalangodinella*, currently in *Zalmoxidae* (Kury, 2003), that show some degree of rotation of the insertion of leg IV and a large ocular tubercle. A more detailed study of their phylogeny will tell if the “flea leg” is synapomorphic for *Icaleptidae* and could lead to a broader concept of the family. The phylogenetic relationships of *Icaleptidae* have never been explored. The family forms part of *Zalmoxoidea*, characterized by the stragulum, which may be formed by the fused conductors articulated to the truncus like a jackknife. Kury and Pérez G. (2002) considered *Icaleptidae* to be closely related to *Zalmoxidae* and *Fissiphalliidae*. *Guasiniidae* was also considered to be related to *Zalmoxoidea* (Pinto-da-Rocha & Kury, 2003b). The penis of *Guasiniidae* shows affinities with that of *Icaleptidae*, possessing a wide stragulum, three pairs of powerful spatulate setae, and small acuminate setae distally in the lamina ventralis; the distal calyx seems to be synapomorphic for *Guasiniidae*. This hypothesis needs to be tested in the future.

Main references:

- **Systematics:** Kury & Pérez G. (2002).

Kimulidae Pérez-González, Kury, and Alonso-Zarazaga, new name

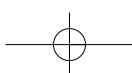
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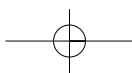
Nomenclatural note: *Minuidae*, as based on an invalid generic name, is also invalid and, as such, needs a replacement (M. Alonso-Zarazaga, pers. comm., 2003). The following nomenclatural acts are therefore recommended: *Minuella* Roewer, 1949 which is the oldest junior synonym available for *Minua*, takes precedence, forcing restoration of all species combined under *Minua*. *Kimulidae* Pérez-González, Kury & Alonso-Zarazaga *nomen nov.* is established to replace *Minuidae*. The type genus is *Kimula* Goodnight & Goodnight, 1942. *Minuidinae* Mello-Leitão, 1933 would be a family-group name available for replacing *Minuidae*, but according to our research, *Minuides* Sørensen, 1932—the type genus of *Minuidinae*—should be included in *Zalmoxidae*.

Etymology: Unknown.

Characterization:

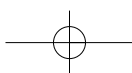
- **Body:** Dorsal scutum bell shaped (Figure 4.31i), with laterals of carapace convex. Opisthosomal scutum widest at groove II and slightly constricted at area III or IV (*Tegipiolus* without any constriction). Opisthosomal scutum outline in lateral view high, but somewhat flattened, not rounded convex. Ocularium prominent, granular, armed with a medial spiniform apophysis erect or curved or sinuous or inclined anteriorly. In *Tegipiolus* the basis of the ocular tubercle is very broad and thick. Mesotergum with four areas, area I longer than the others. In the species of *Metakimula* the sulcus II is effaced on the sides or even entirely lacking. Mesotergal areas typically densely granular but un-

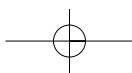




armed; in a few species area I possesses a pair or a transverse row of pointed tubercles. Lateral margin of scutum may have enlarged spiniform tubercles, larger at area II. Free tergites with pointed corners or unpaired median apophyses. Free sternites may bear varied armature, rows of spines or unpaired spines.

- Chelicerae: With well-marked bulla and without remarkable armature.
- Pedipalps: Setiferous tubercles never strongly developed. Femur convex dorsally with ventral and dorsal scattered setiferous tubercles, group of two basal setiferous tubercles with the basalmost tubercle always much reduced and always with mesal subdistal setiferous tubercle. Patella with one mesal subdistal setiferous tubercle. Tibia a little elongate, usually longer than tarsus, margined with lateroectal and lateromesal rows of two to seven setiferous tubercles. Tarsus with lateroectal and lateromesal rows of three to four setiferous tubercles.
- Legs: III–IV without tarsal process and scopula. Male coxa IV well developed, visible under scutum in dorsal view, roughly armed with heavy granules or acute tubercles; trochanter IV has a characteristic ventral spine, and the femur is very incrassate, with a ventral row of strong spiniform apophyses; tibia and metatarsus are roughly tuberculate, and at their apices they have very enlarged and globose ventral tubercles. Tarsal formula: 4(2):6–13(2):5:5–6 (except in *Fudeci*, 3:5:5:5).
- Genitalia: Truncus cylindrical without a well-defined ventral plate, as in Gonyleptoidea. Pars distalis well differentiated from the pars basalis by one sulcus (Figures 4.31j–l) or the border between both, easily recognizable by the upper limit of the pars basalis striate area. Pars distalis laterally armed with three or four strong spatulate spines (Figures 4.31j–l), in some species lanceolate (e.g., *Kimula*, *Metakimula* spp.) (Figures 4.31k,l), in others rounded (e.g., *Kimula cokendolpheri*, *Tegipiolus pachypus*) and ventrally with four small acute setae. The pars distalis has a very peculiar form, apparently synapomorphic for the family, with the lamina ventralis surrounding the capsula interna (conductors + stylus). The apical extremes of the lamina ventralis are enlarged, fingerlike, touching one another dorsally, the apical region of the pars distalis commonly with two folds that can be ventrally entire or divided (Figure 4.31h). With two rigid conductors that could be lamellar (as in *Kimula* and *Metakimula*) (Figures 4.31k,l) or greatly developed and enlarged (as in *Tegipiolus*). In *Kimula* spp. and *Metakimula* spp. the stylus has a small subapical sheet that could be interpreted as a parastylar collar (Figures 4.31k,l). The genitalia of the species of *Minuella* and *Fudeci curvifemur* are rudimentarily illustrated (González-Sponga, 1987); this fact is a considerable limitation for a detailed interpretation of the genitalic features, but the drawings are sufficient for identifying the family genitalic ground plan.
- Color: Typical of soil- and litter-dwelling harvestmen. Body brown; the chelicerae, pedipalps, legs, and prosoma bear yellowish patches and in some aspects appear reticulated. Troglobite species show a uniform light brownish orange.





- Sexual dimorphism. Male leg IV: Trochanter and/or femur IV may be incrassate or strongly curved, tibia IV enlarged and roughly tuberculate. Free sternites with lateral apophyses. Female smaller. In *Kimula cokendolpheri* the spines are reduced, and femur IV differs markedly and is not as enlarged. Trochanter IV has a ventrodistal spine rather than the blunt tubercle characteristic of the male. The free sternites lack the spiny median apophysis. Male dimorphism is present in species of *Kimula* and *Metakimula*, where some morphs have heavily swollen femur IV, while other morphs possess only rows of spines.

Distribution: Kimulidae has a disjunct distribution. The core of the species occurs in Venezuela, Colombia, and the West Indies. An isolated species *Tegipiolus pachypus* was found in northeastern Brazil, representing a group morphologically (as well as geographically) isolated.

Relationships: Kimulidae seems to be closely related to Escadabiidae, a family from Brazil, both belonging to the Samooidea group of families.

Main references:

- **Systematics:** Sørensen (1932), Mello-Leitão (1933a, 1938), Goodnight & Goodnight (1942c, 1943), González-Sponga (1987).
- **Natural history:** González-Sponga (1987), Pérez Gonzalez & de Armas (2000).

Manaosbiidae Roewer, 1943

Adriano B. Kury

Etymology: *Manaosbia*, from type locality Manaus (Manaus), Amazonas, Brazil, called Greek *bios* (living).

Characterization:

- Size: Body length 3.5–10 mm, leg IV 12–49 mm long.
- Dorsum (Figures 4.32a,f,g,h): Opisthosomal scutum with sides convex, only a little wider than prosomatic carapace, posterior border substraight. Ocularium narrow, low, without depression, with a pair of weak small spines. Ozopore like Figure 4.32d. Scutal area I armed with a pair of small spines; III with a pair of stouter spines. Free tergites II–III often with a pair of small spines.
- Chelicerae: Weakly developed in both sexes, with bulla variably armed.
- Pedipalps (Figures 4.32a,f): Smooth, without strong armature; femur cylindrical, neither flattened nor keeled.
- Legs (Figure 4.32b): Coxa IV barely visible under scutum, dorsally covered with pointed tubercles and armed with a spiniform apical apophysis; trochanters I–III may bear ectal spines; femur IV unarmed, straight or a little crooked; only proximal tarsomeres of basitarsus I swollen spindlelike in male; tarsi III–IV with a pair of smooth claws (pectinate in *Syncranaus cribrum*), occasionally sparse scopulae.

