

Main references:

- **Systematics:** González-Sponga (1997), Pinto-da-Rocha & Kury (2003b).
- **Natural history:** Pinto-da-Rocha & Kury (2003b).

Icaleptidae Kury and Pérez G., 2002

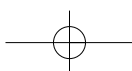
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Etymology: *Icaleptes*, from Ica, a Chibchan people who inhabited the slopes of Sierra Nevada de Santa Marta, and *leptes*, a truncation of the generic name *Gonyleptes*, the first laniatorean to be described.

Characterization:

- **Size:** Dorsal scutum 3.0–3.3 mm long. Femora I–IV 0.6–0.8 / 0.8–1.1 / 0.6–0.8 / 0.8–1.6 mm.
- **Dorsum:** Ocularium well developed (Figure 4.31b), large, unarmed; frontal border of ocularium arises directly from frontal margin of carapace, forming a straight profile like a wall (Figures 4.31a,c), perpendicular to the main axis of the body. Frontal hump of carapace absent. Scutum unarmed, free tergites and sternites unarmed or with transverse row of small tubercles (Figure 4.31d). Mesotergal areas unarmed, either well marked or not defined.
- **Venter:** Free sternites I–V each with a transverse row of minute setiferous tubercles or with a median cluster of small granules forming a stripe. Anal operculum smooth.
- **Chelicerae:** Weakly developed, basichelicerite short, hand small. No sexual dimorphism.
- **Pedipalps** (Figures 4.31a,c): Segments short and stout with short and delicate setiferous tubercles.
- **Legs:** Trochanter IV of male with inner distal or subdistal apophysis. Femur IV of male with row of proteral spines (Figures 4.31a,c). Tarsal formula: 3–4(2):6–7(3):5:6. Coxa IV with ventral inner spiniform apophysis surmounting the spiracles.
- **Genitalia** (Figures 4.31e–h): Ventral plate not divided into regions. Stragulum (see Zalmoxidae) short, wide, with well-developed lateral lobes, articulated to the truncus like a jackknife. Capsula interna simple, with small parastylar collar formed by two lobes (unknown in *Zalmopsylla*). *Lamina ventralis* not covering the stragulum laterally, armed with three pairs of powerful spatulate setae and longitudinal ventrodorsal rows of small acuminate setae.
- **Color:** Dark yellow background with varied darker mottling.
- **Sexual dimorphism:** Strong dimorphic leg IV, male coxa IV ventrally inserted, which causes leg IV to be positioned under the body, as in a flea (Figures 4.31a,c,d), laterally inserted in females as in most Laniatores.

Distribution: Hitherto only recorded from Ecuador (Cotopaxi) and northern Colombia (Sierra Nevada de Santa Marta), but likely to occur also in Venezuela.



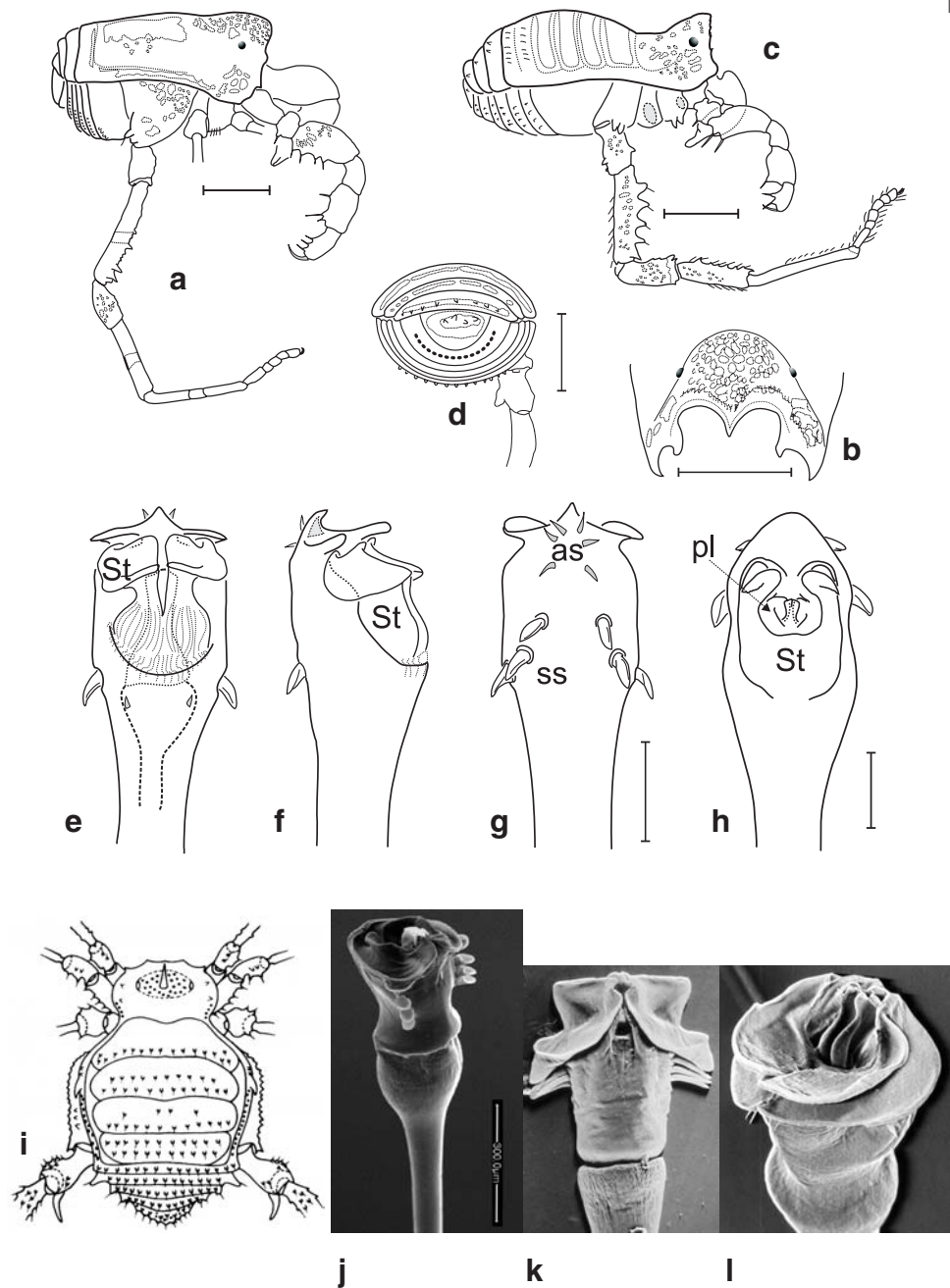
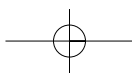


Figure 4.31. Icaleptidae and Kimulidae. (a–h) Icaleptidae. (a) *Icaleptes malkini*, male (Colombia), Habitus lateral. (b) *I. malkini*, male (Colombia), ocularium, frontal. (c) *Zalmopsylla platnicki*, male (Ecuador), habitus, lateral. (d) *Z. platnicki*, male (Ecuador), free tergites and sternites, posterior view. (e–g) *Z. platnicki*, male (Ecuador), distal part of penis, dorsal, lateral, and ventral views. (h) *Z. platnicki*, male (Ecuador), distal part of penis, dorsal, lateral, and ventral views. (i–l) Kimulidae. (i) *Minuella dimorpha* male (from Venezuela), habitus dorsal (from González-Sponga, 1987). (j) *Minuella* sp. (from Venezuela), penis, distal part, laterodorsal. (k) *Kimula elongata* (from Puerto Rico), male, penis, distal part. (l) *Metakimula* sp. (from Cuba), penis, distal part. Photos: A. Pérez-González. Abbreviations: as = acuminate setae; pl = parastylar lobes; ss = spatulate setae; St = stragulum.



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-

