



A new species of *Ferorhinella* with an unusual pattern of sexual size dimorphism (Hemiptera, Cercopidae, Tomaspidinae)

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The spittlebug genus *Ferorhinella* (Hemiptera: Cercopidae) was described by Carvalho & Webb (2004) based on type species *Sphenorhina brevis* Walker (1851). Fennah (1968) had previously consigned this species to the genus *Tropidorhinella*. However, we consider *Ferorhinella* to be a valid genus based on its small size and the distinctive shape of the male genitalia: the parameres broad apically with two subapical process and the aedeagus with a bifid apex S-shaped. The proportion of the head and the shape of the aedeagus and parameres are also quite unlike those of other genera of Cercopidae, including *Tropidorhinella*. Until now, *Ferorhinella* was a monotypic genus. *Tropidorhinella* has four species.

Sexual size dimorphism (SSD) is a difference in body size between males and females of a species. This is one of the most conspicuous characteristics distinguishing the sexes and may result from interaction between natural and sexual selection (del Castillo & Nunes-Farfán, 2008). SSD occurs when body size has differential effects on the fitness of males and females. Mammals, birds, and other vertebrates usually have male-biased SSD, probably because of strong sexual competition among males. Invertebrates usually have female-biased SSD, perhaps because their inflexible exoskeletons limit ovary size, leading to a strong correlation between female body size and fecundity (Serrano-Meneses *et al.*, 2008). Larger females tend to have higher fecundity, while larger males have an advantage in female choice and competition with other males. If females are larger than males, this suggests that natural selection on high fecundity rates greater than the sexual selection acting on males.

Sexual dimorphism has long been of interest to entomologists and many examples have been recorded in Auchenorrhyncha. One example is the presence of a tymbal and the related production of sounds in males of Cicadidae. Another is the production of modified brochosomes, modified setation of the forewing area upon which pellets of such brochosomes are placed, and elongation of the metathoracic tibial macrosetae in females of some Proconiini sharpshooters (Rakitov, 2004). Such dimorphism also occurs in the shape of the pronotum in some species of Membracidae (Metcalf, 1953; Carroll and Loye, 1986). Referring to the case of sexual dimorphism in Membracidae reported by Carroll and Loye (1986), Cryan *et al.* (2003) reported that dimorphism may also occur among males of the same species.

In Cercopidae (Tomaspidinae), previous records of dimorphism include the postclypeus angled or flattened in males and rounded in females (as in *Mahanarva* or *Carachata*) and the basal body of the flagellum (antenna) more elongated in males of some genera of Ischnorhinini (Carvalho & Sakakibara, 1989; Fennah, 1968; Nast, 1951) Liang (2003) discovered a new secondary sex character in the foreleg of males (tibial gland) in a species of Cercopidae (*Augustohahnia dilatitibia*) from New Guinea. With respect to body size and external morphology, females are usually equal to or somewhat larger than males of the same species.

Ferorhinella balatra sp. nov.

(Figs. 1–12)

Measurements (ranges in mm males/females; N = 4 males and 37 females): length: 7.375–9.375 / 5.25–6.25 Length of tegmina: 6–7.25 / 3.875–4.750 Width of tegmina: 2.5–2.625/1.75–2.375

Head black with apex of vertex, mandibular plate, maxillary plate and tylus blood-red, eyes red, oval and arranged transversely; vertex rectangular, smooth, without median carina apparent; ocelli red, closer to each other than to the eyes, separated by about one and a half diameter of one of them. Tylus quadrangular without median carina distinct, with a fine