

## A new genus and species of Podapolipidae (Acari: Heterostigmata) parasitic on *Physonota alutacea* (Boheman) (Coleoptera: Chrysomelidae; Cassidinae) in Mexico and Central America

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### Abstract

*Cassidopolipus physonota* **gen. nov., sp. nov.** (Acari: Podapolipidae) is described from the tortoise beetle, *Physonota alutacea* (Boheman, 1854) (Coleoptera: Chrysomelidae, Cassidinae) collected in Mexico, Honduras and Costa Rica. Of the thirty-one genera of Podapolipidae, the new genus belongs to a group of sixteen genera with adult females having just four well-developed legs. Within this group, six genera also have males with a short, mid dorsal genital capsule. Keys to the six genera are provided.

**Key words:** Taxonomy, tortoise beetle, insect parasite, new genus, new species

### Introduction

Mites in the family Podapolipidae are common parasites of a number of families of Coleoptera, and less commonly on Blattodea and Orthoptera. The family is represented by one species each on Heteroptera and Hymenoptera. They have not been found on Diptera, Lepidoptera, Odonata or any aquatic insects. In most instances, each family of parasitized Coleoptera will have genera of Podapolipidae that are associated with that family only. A conspicuous exception is the genus *Podapolipus*, which is found on beetles in four families as well as on insects in the orders Blattodea and Orthoptera.

Previous reports of Podapolipidae on Chrysomelidae have all been recorded species in the genus *Chrysomelobia* Regenfuss, 1968 (= *Parobia* Seeman and Nahrung, 2003) (Regenfuss, 1968, Eickwort, 1975, Drummond *et al.*, 1984, Fain, 1987, Haitlinger, 1989, Houck, 1992, Morais, Husband and Lofego, 1999, Husband and Morais, 1999, Seeman and Nahrung, 2003, 2005, 2013, Husband and OConnor, 2004, Seeman 2008). Species of *Chrysomelobia* have been reported from Australia, Africa, Europe, North, Central and South America on leaf beetles belonging to the subfamily Chrysomelinae (the record of *C. donati* Haitlinger, 1989 from a cercopid hemipteran is probably accidental). While examining museum specimens of beetles in the chrysomelid subfamily Cassidinae, the junior author recovered podapolipid mites on the beetle, *Physonota alutacea* which did not belong to *Chrysomelobia*, but to a lineage of more derived Podapolipidae. The male, larva and adult female instars resembled mites in 16 genera with adult females with two functional pairs of legs, while adult *Chrysomelobia* females retain all four pairs of legs. Husband and Kurosa (2000) provided a pictorial key to mites of 15 genera whose females have two functional pairs of legs. Kurosa and Husband (2013) described a 16<sup>th</sup> genus, *Simalurapolipus*. The new genus described here is the 17<sup>th</sup> genus in this group.