

Abstract

A cladistic analysis and systematic revision of 2 primarily neotropical mite genera, *Tropicoseius* Baker & Yunker and *Rhinoseius* Baker & Yunker (Mesostigmata, Ascidae, Melicharini), are presented. The 2 genera and 5 of their species are redescribed, and 11 species of *Tropicoseius* and 1 species of *Rhinoseius* are described as new. A key to species of the 2 genera is given. The genera *Tropicoseius* and *Rhinoseius* form a monophyletic lineage, of which the sister group appears to be the genus *Xanthippe* Naskrecki and Colwell. Mites of the genera *Tropicoseius* and *Rhinoseius* feed and reproduce within the inflorescences of hummingbird-pollinated plants. Host plant specificity and fidelity is very high. A posteriori mapping of host plant affiliations on the cladogram reveals a striking pattern of origin and radiation for these mites, with 1 clade (*Rhinoseius*) in dicotyledonous groups of the tropical highlands, and a gradual evolutionary shift within the sister clade (*Tropicoseius*) to lowland habitats and monocotyledonous hosts.

KEY WORDS *Tropicoseius*, *Rhinoseius*, cladistic analysis, hummingbird flower mites, host plant affiliations