

Cladistic Analysis

The following systematic treatment of the genera *Rhinoseius* Baker & Yunker, 1964, and *Tropicoseius* Baker & Yunker, 1964 (together these genera comprise *Rhinoseius* sensu Lindquist and Evans 1965) includes all species described and assigned to these genera by various authors through 1994 (for a detailed review of the taxonomic history see Fain 1992 and Wiese and Fain 1993). Up to the time of this monograph, 42 species had been described. Of these 42 species, 6 are synonymized below. In addition, we describe 12 species as new, giving a current total of 48 valid species.

To generate an hypothesis of the phylogenetic relationship among these species, we performed a cladistic analysis based on numerical parsimony. The cladistic analysis included 41 of the 48 species of *Rhinoseius* sensu stricto and *Tropicoseius* recognized in this study. Seven previously described species were excluded from the analysis because either only 1 sex of the species is known, or specimens were not available for examination at the time of the analysis.

In the cladistic analysis of the 41 ingroup species, 49 morphological characters were used (46 binary and 3 multistate characters). The data matrix included both male and female characters. Specifically, the characters used related to the size and arrangement of opisthosomal shields, dorsal and ventral opisthosomal chaetotaxy, leg chaetotaxy, certain elements of the gnathosoma (tectum, chelicerae, rostral setae, corniculi) as well as reproductive structures of both sexes (Table 1). Because one of the main goals of this study was to reconstruct a number of biological traits of the hummingbird flower mites, no characters relating to host plant affiliation, geo-