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**Taxonomy and phylogeny of New World *Polyplectropus* Ulmer, 1905
(Trichoptera: Psychomyioidea: Polycentropodidae)
with the description of 39 new species**

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ABSTRACT

The taxonomy of the New World species of *Polyplectropus* (Ulmer, 1905a) is revised to include detailed male and female diagnoses, descriptions, illustrations, distribution records, and keys to males of all species and species groups. A phylogenetic analysis based on 59 morphological characters, 89 of 92 (97%) New World *Polyplectropus* species, and 2 outgroup taxa was inferred using parsimony and Bayesian methods, which resulted in minor topological differences. Conflicting estimates of relationship among and within most species groups led to a less resolved Bayesian tree (vs. parsimony tree) due to high variation in rates of change among characters and an overall low number of characters. A new classification for New World *Polyplectropus* is proposed with revised characterization of 10 recognized species groups, 6 newly established. Four species remain unassigned to species group. A key to genera of New World Polycentropodidae, including a redescription of *Polyplectropus* is provided. The homology of the male genitalia of *Polyplectropus* is discussed. Ninety-two species are treated. The following 39 new species are described: *Polyplectropus adamsae* (Peru), *P. alatespinus* (Brazil), *P. amazonicus* (Brazil), *P. andinensis* (Argentina, Bolivia), *P. blahniki* (Venezuela), *P. bolivianus* (Bolivia), *P. brasiliensis* (Brazil), *P. brborichorum* (Ecuador), *P. cressae* (Venezuela), *P. colombianus* (Colombia), *P. corniculatus* (Peru), *P. cuzcoensis* (Peru), *P. ecuadoriensis* (Ecuador), *P. flintorum* (Venezuela), *P. gaesum* (Brazil), *P. guyanae* (Guyana, Venezuela), *P. hollyae* (Brazil), *P. hystricosus* (Brazil), *P. insularis* (Panama), *P. juliae* (Brazil), *P. kanukarum* (Guyana), *P. maculatus* (Venezuela), *P. manuensis* (Peru), *P. matatlanticus* (Brazil), *P. minensium* (Brazil), *P. novafriburgensis* (Brazil), *P. peruvianus* (Peru), *P. petrae* (Brazil), *P. pratherae* (Brazil), *P. puyoensis* (Ecuador), *P. robertsonae* (Bolivia), *P. rodmani* (Brazil), *P. rondoniensis* (Brazil), *P. tragularius* (Brazil), *P. tripunctatum* (Peru), *P. venezolanus* (Venezuela), *P. woldai* (Panama), *P. zamoranoensis* (Honduras), and *P. zuliae* (Venezuela). *Polyplectropus buchwaldi* (Ulmer, 1911) is designated as a *nomen dubium*.

Key words: phylogeny, taxonomy, Neotropics, Nearctic, Bayesian methods, parsimony, classification, cladistics, morphology, Trichoptera, Polycentropodidae, *Polyplectropus*, new species

INTRODUCTION

The polycentropodid caddisfly genus *Polyplectropus* Ulmer contains 219 species found primarily in the tropical and subtropical regions of the world, with 125 species recorded from the Oriental biogeographic region, 53 from the Neotropical region (6 species extending their ranges into the Nearctic region), 37 from the