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A Revision of *Lomachaeta* Mickel, with a new species of *Smicromutilla* Mickel (Hymenoptera: Mutillidae)[1]

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Table of contents

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Abstract

The following species of *Lomachaeta* are described as new: *L. argenta* (Utah, USA), *L. chionothrix* (Guatemala), *L. cirrhomeris* (Southwestern USA), *L. crocopinna* (Southwestern USA), *L. hyphantria* (Bolivia) and *L. ptilohyalus* (Mexico). *Dasymutilla mickeli* Manley and Deyrup, *Lomachaeta coloradensis* Mickel, *Lomachaeta formosula* Mickel, *L. minutula* Mickel, *L. punctinota* Mickel, and *L. variegata* Mickel are junior synonyms of *L. hicksi* Mickel; *Lomachaeta hicksi* has page priority. New distributional data are presented *L. hicksi* Mickel. A revised key, diagnoses for the species, and host data are provided for the species of *Lomachaeta*. The genus *Smicromutilla* is also reviewed and a new species of *Smicromutilla* from California is described as *S. beadugrimi.*

Key words: Hymenoptera, Mutillidae, Lomachaeta, new speciess, revision

Introduction

The sphaeropthalmine genus *Lomachaeta* was established by Mickel (1936) for the Nearctic species *Lomachaeta hicksi* Mickel, *L. punctinota* Mickel, *L. coloradensis* Mickel, and *L. minutula* Mickel. Mickel chose the type species to be *L. hicksi*, based on two males and one female collected in California. Later, Mickel (1940) described *L. variegata* and *L. formosula* from California and Mexico, respectively. Regrettably, color characters were used to differentiate the males of all species. Casal (1969) described two species, *L. ibarrai* and *L. vianai*, based on females from Argentina and expanded the known range of *Lomachaeta* to include the Neotropical region. Later, Mickel (1974) expanded the range of *L. formosula* from Coahuila, Mexico to also include Georgia, USA.

The genus *Lomachaeta* is restricted to the Western Hemisphere. Inferences made from observations of *L. hicksi* (as *L. variegata*) indicate that the all are likely parasitoids of small sphecid wasps that nest in the twigs of plants (Parker 1962; Parker and Bohart 1966).

Specimens of *Lomachaeta* typically are rarely collected when compared to other mutillid genera. For instance, after determining over 5,000 specimens of mutillids at the University of Central Florida Insect Collection, only two male specimens and one female specimen were found (JPP, personal observation). Also, out of ~1,000 specimens of mutillids collected with malaise traps placed in various habitats in Clarke Co., Georgia by JPP, only one male specimen was collected. This rareness may be a consequence of collecting techniques rather than a measure of true abundance, but seems to be more dramatic in the Eastern United States.

In a study of Mutillidae from the Southwestern United States, specimens of several undescribed species of *Lomachaeta* were obtained. Also, a large amount of reared material was available for study, which was collected by F.D. Parker by rearing *Lomachaeta* from twig and trap nests. This material has led to new insights concerning geographic variation observed in *Lomachaeta* species and, consequently, of species boundaries. Because it has been 64 years since the last treatment of *Lomachaeta* (Mickel 1940), we present a much-needed revision of *Lomachaeta* here.

