

Description of the female, redescription of the male, and host associations of the Nearctic species *Sphaerophthalma jacala* Schuster (Hymenoptera: Mutillidae)

JAMES P. PITTS¹ & FRANK D. PARKER²

¹Department of Biology, Utah State University, Logan, UT 84322, USA; jpitts@biology.usu.edu

²4516 China Rose Circle, Reno, NV 8952, USA

Abstract

Sphaerophthalma jacala Schuster, the sole member of the *S. jacala* species-group, was reared from *Trypoxylon*, *Centris*, and *Chrysis* cocoons collected in Jalisco, Mexico. These are the first host records for this species. This material has also generated a new sex association and the female of *S. jacala* is described. The male is redescribed based on this new material and illustrations are given for both sexes.

Key words: Sphaerophthalminae, solitary wasp, velvet ant

Introduction

The Sphaerophthalminae is a morphologically diverse subfamily that includes most of the nocturnal forms found in the Nearctic and Neotropical regions. This subfamily is easily distinguished from the other two New World subfamilies, Myrmosinae and Mutillinae, by both sexes having round eyes, males lacking a jugal lobe, and females having the pronotum fused to the remainder of the mesosoma.

Schuster (1958) provided the only extensive study of the Nearctic nocturnal male Sphaerophthalminae. In his study, Schuster described 122 new species and subspecies and created three new genera. He also designated six new subgenera of which three were placed in the genus *Sphaerophthalma* Blake. Unfortunately, there are undeniable problems with Schuster's treatment of the nocturnal genera and species. The validity of all of Schuster's subgenera is questionable; Pitts *et al.* (2004) recently synonymized all of the subgenera of *Sphaerophthalma*. Schuster's new species, other than those of *Acanthophotopsis* Schuster, *Acrophotopsis* Schuster, and *Dilophotopsis* Schuster, were diagnosed in