

## Review of the *Sphaerophthalma imperialis* species-group (Hymenoptera: Mutillidae), with descriptions of females and taxonomic notes

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### Abstract

A study of Schuster's *Sphaerophthalma imperialis* and *S. edwardsii* species-groups was completed. *Sphaerophthalma megagnathos aurifera* Schuster is a **junior synonym** of *S. megagnathos* Schuster and *S. edwardsii flammifera* Schuster is a **junior synonym** of *S. edwardsii* (Cresson). New sex associations make *S. imperialiformis maracopae* Schuster and *S. imperialiformis imperialiformis* (Viereck) **junior synonyms** of *S. marpesia* (Blake), and *S. erato* (Blake) a **junior synonym** of *S. imperialis* (Blake). The *S. imperialis* species-group is redefined to contain *S. imperialis* (Blake) and *S. marpesia*, which were previously placed in the *S. imperialis* group *sensu* Schuster (1958), and *S. megagnathos* and *S. edwardsii*, which were previously placed in *S. edwardsii* group *sensu* Schuster (1958). The female of *S. edwardsii* is described and the females of *S. imperialis* and *S. marpesia* are redescribed. Keys are presented for both sexes of this species-group.

**Key words:** Sphaerophthalminae, solitary wasp, velvet ant

### Introduction

Schuster (1958) designated two species-groups to include the interesting North American species of “*Photopsis*” characterized by darkened integumental coloration and colorful setal patterns. He placed *Sphaerophthalma imperialis* (Blake) and *S. imperialiformis* (Blake) in the “Group of *S. imperialis*” and *S. megagnathos* Schuster and *S. edwardsii* (Cresson) in the “Group of *S. edwardsii*”. Within these two species-groups, Schuster (1958) described several subspecies based to a large extent on variation in integumental and setal coloration. In addition to the nominal subspecies, Schuster described three subspecies in a key only, namely *S. megagnathos aurifera*, *S. edwardsii flammifera*, and *S. imperialiformis maracopae*. Problems, however, are known to exist with Schuster's