

World Species of the Genus *Chromoteleia* Ashmead (Hymenoptera, Platygastridae, Scelioninae)

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INTRODUCTION

The genus *Chromoteleia* was originally described by William H. Ashmead (1893), based on the colorful type species *Chromoteleia semicyanea* from the Caribbean island of Saint Vincent. Over the past 125 years, six species have been recorded from the New World and a single species from the Afrotropical region (Masner 1976; Johnson 2018). The fossil species of the genus, *C. theobaldi* Maneval, dates from Baltic amber (from 40–60 mya, Maneval 1938). According to the specimens accumulated in the previous **Platygastroidea Planetary Biological Inventory** (PBI) project, the diversity of the genus remains largely unexplored.

AIM

The goal of this work is to investigate the species diversity within the genus *Chromoteleia*, describe and delimit all the species, develop identification tools, expand the biogeographic data associated with these species, and to present a clarified generic concept.

METHODS

More than 3,500 specimens have been borrowed from institutions around the world. Specimens are uniquely identified and label data are recorded in the **Hymenoptera On-Line database** (hol.osu.edu).

The generic and species descriptions are generated from **vSysLab** (vsyslab.osu.edu), designed to facilitate the production of a taxon by character data matrices, and to integrate those data with the existing taxonomic and specimen-level database).

Species are illustrated using an extended-focus system. A standard set of images is provided for each species (Fig. 1). All the images are archived in **Specimage** (specimage.osu.edu) and at **Morphbank** (www.morphbank.net).



Fig. 1. Example of a standard species illustration plate.

RESULTS

We have currently recognized and described 27 species from the New World and Afrotropical region, twenty-one of which are new to science. Thus, the number of species in the genus is increased nearly 4-fold.

The distribution of the genus in the World is drastically expanded, with 26 species ranging from Mexico to southern Brazil and 1 species occurring in central Africa (Fig. 2)

The presence of *Chromoteleia* in the Neotropical and Afrotropical regions suggests that the genus predates the geological separation of African and South America approximately 120 million years ago.



Fig. 2. Point (red) and area (yellow) distribution records for *Chromoteleia* in HOL.

A significant gap in our knowledge on this genus is that the host of these creatures is still unclear.

Some important morphological characters are found to be useful in identifying the species of *Chromoteleia*, as follows. Antenna (Fig. 3): number of basiconic sensilla on female antenna. Body (Fig. 4): coloration. Fore wing (Fig. 5): venations. Metasoma (Fig. 6, 7): shape of sixth tergum in females; posterior margin of seventh tergum in males. Hind basitarsus (Fig. 8): length of basitarsus.



Fig. 3. Examples of basiconic sensilla variation in female antennae.



Fig. 4. Examples of color variation.



Fig. 5. Examples of fore wing showing variations in venation



Fig. 6. Examples of female sixth tergum showing variations in shape.

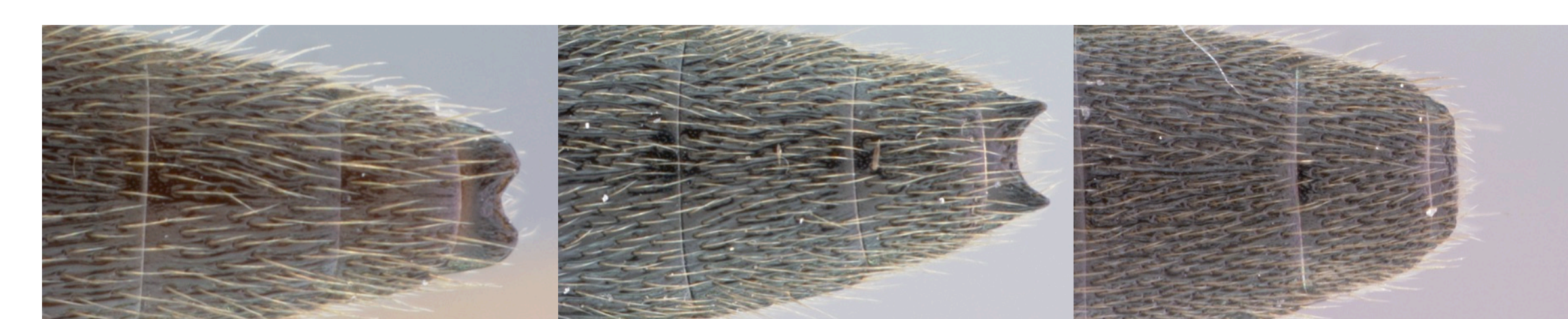


Fig. 7. Examples of male seventh tergum showing variations in posterior margin



Fig. 8. Examples of hind basitarsus showing variations in length.

CONCLUSIONS

The species of *Chromoteleia* are remarkably abundant in the New World, especially in tropical areas. The presence of *Chromoteleia* in the Neotropical and Afrotropical regions suggests the genus may date back to 120 million years ago.

This comprehensive revision of species of *Chromoteleia* based on extensive sampling worldwide would provide a better understanding of the diversity and interrelationships among species in the genus. The cause of diversification of the genus in the New World requires further study.

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