



Zootaxa 3030: 1–62 (2011)
www.mapress.com/zootaxa/

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Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

ZOOTAXA

3030

A revision of *Gasteruption* Latreille (Hymenoptera: Gasteruptionidae) in the Neotropical Region

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Magnolia Press
Auckland, New Zealand

Accepted by M. Buffington: 8 Jul. 2011; published: 16 Sep. 2011

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(*Zootaxa* 3030)

62 pp.; 30 cm.

16 Sep. 2011

ISBN 978-1-86977-785-2 (paperback)

ISBN 978-1-86977-786-9 (Online edition)

FIRST PUBLISHED IN 2011 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

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ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

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Abstract

The Neotropical species of *Gasteruption* Latreille are revised, described, diagnosed, and illustrated; a key for females is provided. Twenty six valid species are recognized, thirteen of which are described as new: *G. amputatum* Townes, *G. barnstoni* (Westwood), *G. bertae* n. sp., *G. bispinosum* Kieffer, *G. brachychaetum* Schrottky, *G. brandaoi* n. sp., *G. brasiliense* (Blanchard), *G. floridanum* (Bradley), *G. glaucae* n. sp., *G. guildingi* (Westwood), *G. hansonii* n. sp., *G. helenae* n. sp., *G. huberi* n. sp., *G. kaweahense* (Bradley), *G. lianae* n. sp., *G. loiaconoae* n. sp., *G. masneri* n. sp., *G. oliveirai* n. sp., *G. parvum* Schrottky, *G. rafaeli* n. sp., *G. sartor* Schletterer, *G. smithi* n. sp., *G. tenue* Kieffer, *G. townesi* (Alayo), *G. visaliae* (Bradley), and *G. wahlia* n. sp. The following new synonymies are proposed: *G. maculicorne* Cameron, *G. macroderum* Schletterer, and *G. zapotecum* Schletterer with *G. barnstoni*; *G. bihamatum* Kieffer, *G. fallens* Kieffer, *G. fiebrigi* Schrottky, *G. leptodomum* Kieffer, *G. montivagum* Kieffer, and *G. strandi* Kieffer with *G. bispinosum*; *G. annulitarse* Schrottky, *G. brasiliae* Kieffer, *G. gracillimum* (Schletterer), *G. longicauda* Kieffer, *G. petroselini* Schrottky, *G. subtropicale* Schrottky

and *G. torridum* (Bradley) with *G. brasiliense*; *G. rufipectus* (Westwood) with *G. guildingi*; *G. angustatum* (Kieffer) with *G. kaweahense*; *G. horni* Brèthes with *G. parvum*. The following taxa are considered as *species inquirendae*: *G. albitarse* Schletterer, *G. austini* Jennings and Smith, *G. subcoriaceum* Kieffer **n. stat.**, and *G. tenuicolle* Schletterer. As well, *G. rubrum* Taschenberg is synonymized with *Pseudofoenus infumatus* (Schletterer). In addition, *G. tenue* Pasteels, 1957a from Australia is a junior homonym of *G. tenue* Kieffer, 1922 and is renamed *G. pasteelsi* **n. name**.

Key words: Evanioidae, Gasteruptiinae, Parasitica, parasitoid, parasitic wasps

Introduction

Gasteruptiids are easily recognizable among other wasps by the long metasoma, inserted very high on the propodeum, the long neck-like propleuron, the 14-segmented antenna in females and 13-segmented in males, the relatively long eye, extending almost to the mandible, and the clavate metatibia (Fig. 1a) (Crosskey 1951; Smith 2006). Larvae areinquilines in nests of solitary bees and wasps, with host records in species of Apidae, Colletidae, Halictidae, Megachilidae, Stenotritidae, Sphecidae, and Vespidae (Jennings and Austin 2004). There are a few host records about Neotropical gasteruptiids only for species originally described from the Nearctic.

The circa 500 extant species of Gasteruptiidae are divided into the subfamilies Hyptiogastrinae and Gasteruptiinae. Hyptiogastrinae is divided into two genera, *Hyptiogaster* Kieffer, with 10 Australian species, and *Pseudofoenus* Kieffer, with two South American and some 80 Australasian species (Jennings and Austin 1994a, 1994b, 1997a, 1997b, 2002, 2005). The classification of Gasteruptiinae was recently revised by Macedo (2009), who proposed the division of the subfamily into four genera, of which the most speciose is *Gasteruption* Latreille, with some 400 species worldwide, and three small Neotropical genera: *Plutofoenus* Kieffer and *Trilobitofoenus* Macedo, each with three species, and the monotypic *Spinolafoenus* Macedo.

Gasteruption was originally described by Latreille (1796) based on a single species, *G. assectator* (Linnaeus). Most of the more than 400 nominal species currently recognized were described by naturalists in the 19th century and beginning of 20th century, such as Blanchard (1840), Brullé (1846), Schletterer (1885, 1890), Cameron (1887), Semenow (1892), Melander and Brues (1902), Kieffer (1903, 1907, 1910a, 1911a, 1911b), Bradley (1908, 1909), and Schrottky (1906, 1907). Kieffer (1912), in his world revision of Evaniidae (with Gasteruptiidae as a subfamily), organized all this early information as did Hedicke (1939) in his world catalog. Townes (1950) revised the fauna of the Nearctic Region and Pasteels (1956b, 1957a, 1957b) revised the fauna of Melanesia, Australia, and New Zealand. Other taxonomic works were focused on local faunas, such as those from Malaysia (Pasteels 1958a) and eastern North America (Smith 1996). Descriptions of several new species were made for Africa by Pasteels (1956a, 1958b, 1962) and Benoit (1984a, 1984b), and for Eurasia by Alekseev (1993) and Saure (2006).

Most of the Neotropical species of *Gasteruption* were described before the publication of Hedicke's catalog (1939) and were based on only one or a few specimens. The purpose of this work is to present a systematic revision of the Neotropical species of *Gasteruption*.

Material and methods

The examined specimens of *Gasteruption* are from the following institutions, cited by the following abbreviations: Academy of Natural Sciences, Philadelphia, PA, USA (ANSP); American Entomological Institute, Gainesville, FL, USA (AEIC); American Museum of Natural History, New York, NY, USA (AMNH); Canadian National Collection of Insects, Ottawa, ON, Canada (CNCI); Cornell University, Ithaca, NY, USA (CUIC); Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (DEIC); Fundação Instituto Oswaldo Cruz, Rio de Janeiro, Brazil (FIOC); Fundación Miguel Lillo, Tucumán, Argentina (IMLA); Hope Entomological Collections, University Museum, Oxford, UK (OXUM); Hungarian Natural History Museum, Budapest, Hungary (HNHM); Instituto Brasileiro de Geografia e Estatística, Brasília, Brazil (DIVE); Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia (UNCB); Instituto de Ecología y Sistemática, Havana, Cuba (IESC); Instituto de Investigaciones de Recursos Biológicos Alexander von Humboldt, Villa de Leyva, Colombia (IAVH); Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica (INBC); Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil (INPA); Martin Luther Universität, Wissenschaftsbereich Zoologie, Halle, Ger-