



Zootaxa 2259: 1–159 (2009)
www.mapress.com/zootaxa/

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Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

ZOOTAXA

2259

Revision of New World Spalangiinae (Hymenoptera: Pteromalidae)

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Magnolia Press
Auckland, New Zealand

Accepted by M. Buffington: 1 Sept. 2009; published: 8 Oct. 2009

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Revision of New World Spalangiinae (Hymenoptera: Pteromalidae)
(*Zootaxa* 2259)

159 pp.; 30 cm.

8 Oct. 2009

ISBN 978-1-86977-413-4 (paperback)

ISBN 978-1-86977-414-1 (Online edition)

FIRST PUBLISHED IN 2009 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

Spalangia Latreille and *Playaspalangia* Yoshimoto, the only two genera classified in Spalangiinae (Chalcidoidea: Pteromalidae) are revised for the New World. Thirty-one species of *Spalangia* and a single species of *Playaspalangia*, *P. rothi* Yoshimoto, are recognized from the New World. One further name, *Spalangia tarsalis* Brèthes, is treated as a **nomen dubium**. European species of *Spalangia* not yet known from the New World are also discussed and illustrated relative to regional species, but are not treated formally. The following new synonymies are proposed: *Spalangia erythromera brachycephus* Bouček under *Spalangia erythromera* Förster **n. syn.**, *Spalangia bakeri* Kieffer under *Spalangia chontalensis* Cameron **n. syn.**, and *Spalangia lanaiensis* Ashmead under *Spalangia impunctata* Howard **n. syn.** *Spalangia simplex* Perkins is newly recorded from the New World and the following 13 species are described as new: *Spalangia alyxia* **n. sp.**, *Spalangia flavicrus* **n. sp.**, *Spalangia imitator* **n. sp.**, *Spalangia innuba* **n. sp.**, *Spalangia leiopleura* **n. sp.**, *Spalangia masneri* **n. sp.**, *Spalangia nigroides* **n. sp.**, *Spalangia noyesi* **n. sp.**, *Spalangia plaumanni* **n. sp.**, *Spalangia rugosifrons* **n. sp.**, *Spalangia stictocephala* **n. sp.**, *Spalangia stictocyla* **n. sp.**, and *Spalangia xanthoscapa* **n. sp.** The 2 genera and the 32 regional species of Spalangiinae are keyed, described and illustrated, and regional hosts and distributions are summarized for each species. Distribution maps document the known range of each of the species in the New World. For purposes of comparison of morphologically similar species, 7 informal species groups are recognized in *Spalangia* to include 29 of the 31 New World species: the *attae*-group (*S. attae* Burks, *S. rugosifrons*, *S. stictocyla* and *S. stictocephala*), the *cameroni*-group (*S. cameroni* Perkins, *S. longepetiolata* Bouček and *S. gemina* Bouček), the *drosophilae*-group (*S. bethyloides* Bouček, *S. drosophilae* Ashmead, *S. flavicrus*, *S. impunctata*, *S. innuba*, *S. leiopleura* and *S. plaumanni*), the *endius* group (*S. endius* Walker and *S. nigripes*), the *nigra*-group (*S. alyxia*, *S. chontalensis*, *S. masneri*, *S. nigra* Latreille, *S. nigroides* and *S. nigroaenea* Curtis), the *noyesi*-group (*S. noyesi* and *S. xanthoscapa*), and the *subpunctata*-group (*S. erythromera*, *S. fuscipes*, *S. haematobiae* Ashmead, *S. imitator* and *S. subpunctata* Förster).

Key words: Chalcidoidea, *Spalangia*, *Playaspalangia*, Diptera pupal parasitoids

Introduction

The subfamily Spalangiinae (Pteromalidae) includes just two genera, *Spalangia* Latreille, 1805 and *Playaspalangia* Yoshimoto, 1976. The type species of the monotypic genus *Playaspalangia* was described from Mexico, whereas Noyes (2003) lists 51 valid species for the cosmopolitan genus *Spalangia*. Because of a very distinctive habitus individuals of Spalangiinae and *Spalangia* are among the most easily identifiable of the 31 currently accepted subfamilies and the almost 600 world genera of Pteromalidae listed by Noyes (2003). Except sometimes for the legs, specimens are black or dark brown without obvious metallic luster and the antennae are inserted widely apart at the extreme anterior margin of the head above the base of each mandible (e.g. Figs 1, 10). Furthermore, the antenna is only 10-segmented and the flagellum lacks differentiated anelli, consisting of 7 funicular segments and an unsegmented clava (e.g. Figs 12, 14, 73, 76). Because individuals are so easily recognized, Spalangiinae and/or *Spalangia* usually is differentiated within the first few choices of keys to Pteromalidae (e.g. Graham 1969; Bouček and Rasplus 1991; Bouček and Heydon 1997) and sometimes the group has even been treated as its own family (see Bouček 1963; Bouček 1988b). A cladistic analysis of 90 morphological features by Török and Abraham (2002) retrieved *Spalangia* as the sister group of other Pteromalidae and the molecular analyses of Campbell *et al.* (2000) and Desjardin *et al.* (2007) indicated a comparatively basal position for *Spalangia* within a non-monophyletic Pteromalidae, though subfamilial relationships within Pteromalidae remain poorly substantiated.

Type material of *Playaspalangia rothi* Yoshimoto was collected in the intertidal zone of coastal Mexico on algae-covered rocks with small barnacles (Yoshimoto 1976). Its host has yet to be determined, but undoubtedly is some fly (Diptera) associated with the shore-line environment. When determined reliably through rearing, species of *Spalangia* have been shown to be either primary parasitoids of Diptera puparia or, much more rarely, hyperparasitoids of Diptera puparia through Hymenoptera primary parasitoids or hyperparasitoids of non-dipteran hosts through Tachinidae (Diptera) primary parasitoids. Because of their dipteran