Zootaxa 3621 (1): 001–082
www.mapress.com/zootaxa/

Monograph

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3621.1.1
http://zoobank.org/urn:lsid:zoobank.org:pub:99CC048E-C555-4178-8932-70E93A3B255C

ZOOTAXA

3621

Revision of the genus *Erythromelana* Townsend (Diptera: Tachinidae) and analysis of its phylogeny and diversification

DIEGO J. INCLAN[1] & JOHN O. STIREMAN III[2]

Department of Biological Sciences, Wright State University, Dayton, OH, USA 45435.
[1]current address: Dipartimento Di Agronomia Animali Alimenti Risorse Naturali e Ambiente (DAFNAE), Università degli Studi di Padova, Viale dell'Università 16, 35020 Legnaro (Padova), Italy. E-mail: diegojavier.inclanluna@studenti.unipd.it
[2]E-mail: john.stireman@wright.edu

Magnolia Press
Auckland, New Zealand

Accepted by J. O'Hara: 17 Dec. 2012; published: 11 Mar. 2013

DIEGO J. INCLAN & JOHN O. STIREMAN III

Revision of the genus *Erythromelana* Townsend (Diptera: Tachinidae) and analysis of its phylogeny and diversification

(*Zootaxa* 3621)

82 pp.; 30 cm.

11 Mar 2013

ISBN 978-1-77557-114-8 (paperback)

ISBN 978-1-77557-115-5 (Online edition)

FIRST PUBLISHED IN 2013 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

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

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

TABLE OF CONTENTS

ABSTRACT

The Neotropics harbor an enormous diversity of tachinid flies (Diptera: Tachinidae), yet the fauna remains poorly understood. This is especially true of the tribe Blondeliini, which is particularly diverse in this region and in great need of taxonomic attention. Here, the Neotropical blondeliine genus *Erythromelana* Townsend is revised. This genus is widely distributed from southern Mexico to northern Argentina, with the Andes being a hotspot of diversity. Known hosts belong to the genus *Eois* Hübner (Lepidoptera: Geometridae). This revision includes the redescription of three previously described species and the description of 11 new species based on characteristics of adults and immatures. The new species are *E. arciforceps* sp. nov., *E. catarina* sp. nov., *E. convexiforceps* sp. nov., *E. cryptica* sp. nov., *E. curvifrons* sp. nov., *E. distincta* sp. nov., *E. ecuadoriana* sp. nov., *E. eois* sp. nov., *E. leptoforceps* sp. nov., *E. napensis* sp. nov., and *E. woodi* sp. nov. A morphological database of 62 characters was constructed to assess morphological variation within and among species and species groups using Principal Components Analysis. Means and medians for these morphological traits were calculated to infer phylogenetic relationships using parsimony. Additionally, a maximum likelihood phylogenetic analysis was performed using COI mtDNA sequences for a subset of eight species. Nominal species *E. obscurifrons* (Wulp) is treated as a *nomen dubium* within *Erythromelana*. Two species previously assigned to *Erythromelana* appear to represent distinct genera with unclear relationships to this genus and are reinstated as monotypic genera: *Myiodoriops marginalis* Townsend and *Euptilodegeeria obumbrata* (Wulp), revived status. Biological and phylogenetic data are used to infer modes of diversification within *Erythromelana*.

Key words: Tachinidae, Blondeliini, Andes Mountains, Neotropical, *Eois*, PCA, speciation mode