

ZOOTAXA

1572

**Revision of the characters of Centrolenidae
(Amphibia: Anura: Athesphatanura),
with comments on its taxonomy
and the description of new taxa of glassfrogs**

DIEGO F. CISNEROS-HEREDIA & ROY W. MCDIARMID



Magnolia Press
Auckland, New Zealand

DIEGO F. CISNEROS-HEREDIA & ROY W. MCDIARMID

Revision of the characters of Centrolenidae (Amphibia: Anura: Athesphatanura), with comments on its taxonomy and the description of new taxa of glassfrogs

(*Zootaxa* 1572)

82 pp.; 30 cm.

31 August 2007

ISBN 978-1-86977-147-8 (paperback)

ISBN 978-1-86977-148-5 (Online edition)

FIRST PUBLISHED IN 2007 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

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

© 2007 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)



Revision of the characters of Centrolenidae (Amphibia: Anura: Athesphatanura), with comments on its taxonomy and the description of new taxa of glassfrogs

DIEGO F. CISNEROS-HEREDIA^{1,3} & ROY W. MCDIARMID²

¹ National Museum of Natural History, 2002 RTP, Smithsonian Institution, Washington, D.C., USA; and, Colegio de Ciencias Biológicas & Ambientales, Universidad San Francisco de Quito, Ecuador.

² US Geological Survey, Patuxent Wildlife Research Center, National Museum of Natural History, Room 378, MRC 111, Washington, DC 20013-7012 USA. E-mail: mcdiarmr@si.edu

³ Present address: Department of Geography, King's College London, Strand, London WC2R 2LS, UK. E-mail: diegofrancisco_cisneros@yahoo.com or diegofrancisco.cisneros@gmail.com

Table of contents

| | |
|---|----|
| Abstract | 3 |
| Resumen | 4 |
| Introduction | 4 |
| Materials and Methods | 6 |
| Analysis of the diagnostic characters of Centrolenidae | 10 |
| Comments on the generic and infrageneric-level taxonomy of Centrolenidae | 29 |
| Genus <i>Nymphargus</i> new genus | 34 |
| <i>Nymphargus laurae</i> Cisneros-Heredia & McDiarmid, new species | 37 |
| Annotated list of the species of Centrolenidae from the Republic of Ecuador | 45 |
| Acknowledgements | 65 |
| References | 66 |
| Appendix I | 76 |
| Appendix II | 80 |

Abstract

Anurans of the family Centrolenidae are a diverse clade of arboreal frogs distributed across tropical America. Knowledge of their taxonomy, systematics, ecology, behavior, morphology, and other evolutionary aspects of their biology is deficient. Relationships among centrolenid species remain largely unresolved, with no satisfactory phylogenetic hypothesis, and none of the current genera has compelling evidence of monophyly. Further, understanding the phylogeny of glassfrogs is constrained by species-level taxonomic problems, including incorrect description of characters, incomplete analyses of intraspecific variation, and lack of appreciation of species diversity. Herein, we define and analyze the 23 characters that are useful, in combination, in diagnosing centrolenid species, and thereby provide a reference for the use of future workers. We propose revised classifications for the parietal and visceral peritoneal pigmentation, liver form and coloration of its associated hepatic peritoneum, nuptial excrescences, and hand ornamentation. We comment on the generic and species-level taxonomy of Centrolenidae, proposing the recognition of a new genus and describing a new species from Ecuador. We treat *Hyla ocellifera* Boulenger as a synonym of *Centrolene prosoblepon* (Boettger), *Hyalinobatrachium cardiacalyptum* McCranie & Wilson as a synonym of *Hyalinobatrachium chirripoi* (Taylor), and *Hyalinobatrachium crybetes* McCranie and Wilson as a synonym of *Hyalinobatrachium colymbiphyllum* (Taylor). We also present an annotated list of the species of glassfrogs from the Republic of Ecuador with some distributional remarks.

Key words: Centrolenidae, diagnostic characters, variation, peritoneal coloration, nuptial excrescences, taxonomy, synonyms; *Centrolene*, *Cochranella*, *Hyalinobatrachium*, *Nymphargus*, new genus; *Nymphargus laurae*, new species