



# Molecular taxonomy and evolutionary hypothesis concerning *Astyanax fasciatus* (Characiformes, Characidae) from Vila Velha State Park and Tibagi and Iguaçu Rivers

D.A. Matoso<sup>1</sup>, M. da Silva<sup>2</sup>, R.F. Artoni<sup>3</sup> and R.A. Torres<sup>4</sup>

<sup>1</sup>Departamento de Biologia, Universidade Federal do Amazonas, Manaus, AM, Brasil

<sup>2</sup>Instituto Nacional de Pesquisas da Amazônia, Manaus, AM, Brasil

<sup>3</sup>Departamento de Biologia Estrutural, Molecular e Genética, Universidade Estadual de Ponta Grossa, Ponta Grossa, PR, Brasil

<sup>4</sup>Departamento de Zoologia, Universidade Federal de Pernambuco, Recife, PE, Brasil

Corresponding author: D.A. Matoso  
E-mail: danielmatoso@yahoo.com.br

Genet. Mol. Res. 12 (1): 631-638 (2013)

Received March 29, 2012

Accepted August 3, 2012

Published March 7, 2013

DOI <http://dx.doi.org/10.4238/2013.March.7.1>

**ABSTRACT.** A species complex hypothesis involving *Astyanax fasciatus* from southern Brazil was tested using 12S mtDNA sequences. Phylogenetic inferences were performed with maximum likelihood, maximum parsimony and Bayesian as phylogenetic methods and *Hemigrammus bleheri* as the outgroup. Besides 11 sequences from *A. fasciatus*, the data set was comprised of other partial 12S sequences including material from *Astyanax altiparanae* (two sequences) and *Astyanax* sp (four sequences), both from the Iguaçu River. The hypothesis of an *A. fasciatus* species complex was reinforced given the close relationship between *A. altiparanae* and *Astyanax* sp observed in the Bayesian tree. Consequently, a taxonomic revision is necessary for these species.

**Key words:** Fish; Evolution; Systematic phylogeny; Neotropical region