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Semblanzas Ictiológicas Iberoamericanas
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y
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“El tiempo es invención o no es nada en absoluto”. Henri Bergson

“El tiempo es olvido y es memoria”. Jorge. L. Borges

A través de esta nueva serie tratamos de conocer diferentes aspectos personales de los integrantes de la comunidad ictiológica iberoamericana.

Esta iniciativa, comparte el espíritu y objetivo de las semblanzas nacionales buscando informalmente, otro punto de unión en la “comunidad de ictiólogos iberoamericanos”.

Quizás esté equivocado en mi apreciación, pero creo que vale la pena este intento, ya que, con la colaboración generosa e insoslayable de los integrantes de este “universo”, señalaremos un registro en el tiempo de la *Ictiología Neotropical*.

Hugo L. López

Ecuador.

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Imagen de Tapa

Carlos Alberto Garita Alvarado con un ejemplar de machaca (*Brycon costaricensis*) del río Sarapiquí, Costa Rica, noviembre de 2011

Imagen de fondo

Porque en realidad nuestro norte es el sur, dibujo de Joaquín Torres García

Semblanzas Ictiológicas Iberoamericanas

Carlos Alberto Garita Alvarado



Pesca de guapote (*Parachromis dovii*), isla de Ometepe, lago de Nicaragua, diciembre de 2013

Hugo L. López y Justina Ponte Gómez

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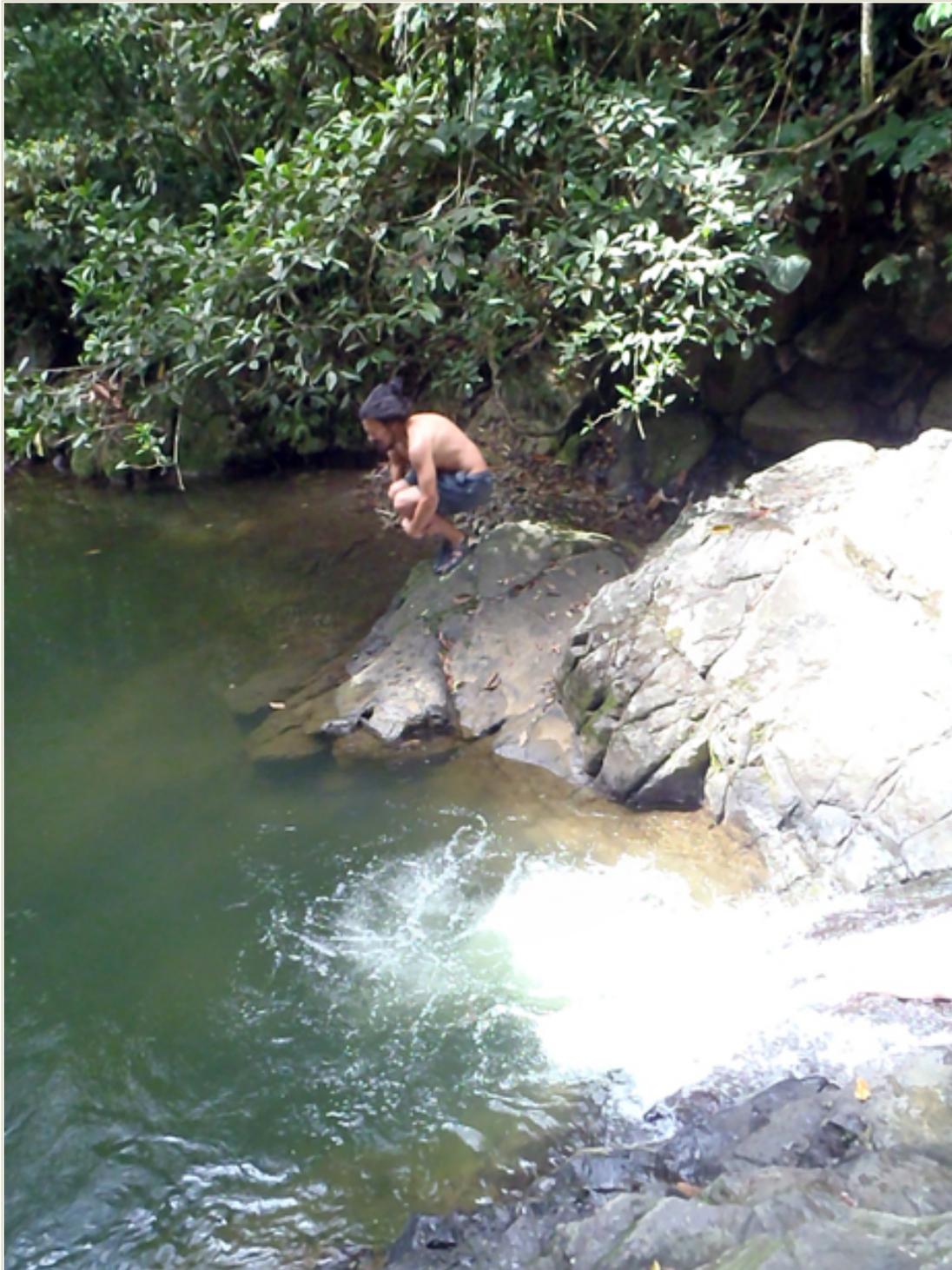
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Cuestionario

- **Un libro:** cualquiera de Horacio Quiroga
- **Una película:** *Lista de Espera*
- **Un tema musical:** *Deja la vida volar*
- **Un artista:** Carlos Salazar Herrera
- **Un deporte:** futbol
- **Un color:** verde
- **Una comida:** arroz y frijoles
- **Un animal:** una alumina
- **Una palabra:** tranquilidad
- **Un número:** 88
- **Una imagen:** amanecer a la orilla de un río
- **Un lugar:** Río Pacuare, en Linda Vista de Siquirres, Limón, Costa Rica
- **Una estación del año:** época de lluvias
- **Un nombre:** Remedios
- **Un hombre:** abuelo
- **Una mujer:** abuela
- **Un personaje de ficción:** -
- **Un superhéroe:** -



Carlos Garita Alvarado en el río Tamarindo, Nicaragua, diciembre de 2011



"Bomba" en la Quebrada Ganga, Siquirres, Costa Rica, abril de 2012

Annotated checklist of the freshwater fishes of continental and insular Costa Rica: additions and nomenclatural revisions

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ABSTRACT: Based on a combination of intensive literature review, electronic database searches, re-identification of museum specimens and fieldwork, we hereby provide an updated checklist of the freshwater fishes of continental and insular Costa Rica. This checklist, systematically arranged at the ordinal and familial level, includes nomenclatural revisions, distributional information, and when appropriate, cross-references on the basis of Bussing (1998). According to our results, the native Costa Rican freshwater fish fauna is composed by 250 species, divided into 119 genera, 49 families and 19 orders; increasing in 108 the number of species originally reported by Bussing (1998). By far, the vast majority of these species, according to their supposed tolerance to salinity, are peripheral (63.2%), followed by secondary freshwater fishes (23.6%); only 13.2% are primary freshwater fishes. 24 species in this checklist appear to be endemic to Costa Rica. In addition to the native fauna 8 exotic species are reported.

INTRODUCTION

Despite the relatively small continental size of Costa Rica, the country has a rich freshwater fish fauna, which was originally covered by Bussing (1987; 1998). Since these pioneer works, knowledge about the freshwater fishes of the country has continued to grow. The discovery of new species, the establishment of new inland and country records, and the numerous nomenclatural changes for previously known species, given major advances in understanding of the status and relationships of many groups, contribute to such development. The purpose of the following checklist is to update the known composition of the Costa Rican freshwater fish fauna, as well as provide revisions in nomenclature that reflect the well supported conclusions of recent studies on relationships.

MATERIALS AND METHODS

Diversity and distributional data were obtained by several methods. First, field sampling at different localities in Costa Rica was performed between March 2009 and January 2013. Sampling gear included seines, cast nets and backpack electrofishers. Collection and research permits (No-152-2009-SINAC, No-181-2010-SINAC, No 157-2012-SINAC and No 007-2013-SINAC) were issued by the Costa Rican Ministerio de Ambiente Energía y Telecomunicaciones (MINAET) and the Sistema Nacional de Áreas de Conservación (SINAC). Parallel, a thorough review of the scientific literature and Costa Rican freshwater fish holdings at the collection of the Museo de Zoología of the Universidad de Costa Rica (UCR) was conducted. Finally, species occurrence records were also obtained by querying the inter-institutional online database FishNet2 (www.fishnet2.net) in order to supplement the data obtained by the above sources.

Specimens preserved were deposited at UCR and

Louisiana State University Museum of Zoology (LSUMZ). Other institutional abbreviations used are as follows: CAS = California Academy of Sciences; LACM = Los Angeles County Museum; STRI = Smithsonian Tropical Research Institute; TU = Tulane University Museum of Natural History; UF = University of Florida; and UMMZ = University of Michigan Museum of Zoology.

The checklist is arranged by order and family following Eschmeyer and Fong (2013). Genera and species within a family are arranged in alphabetical order. After the mention of each most inclusive taxa, the number in parentheses indicates the number of species. In classification categories larger than genera the number in brackets represent the number of genera. In those higher than family the number preceding genera is the number of families.

The family tolerance to salinity is listed according to the classification of Myers (1949). Authority and year of description of each species and genera follow Eschmeyer (2013). An asterisk after the authority name indicates that the taxon is introduced. When available, after the authority name, the common English name was provided followed by the common Spanish name, both following Bussing (1998), Bussing and López (1994, 2010) and Froese and Pauly (2013) (see Angulo (2013) for a more complete list of the common and technical Spanish names of the Costa Rican freshwater fishes). The number within parenthesis following the common names indicates the page location for the appropriate account in Bussing (1998).

Distributional data are presented at the Costa Rican major River drainage basins (Figure 1), for which there are records for the species (Atlantic slope before Pacific slope drainages, all listed in north to south order). Following the distributional data, altitudinal ranges in meters above sea level are also presented. For range expansions and additions to freshwater fish fauna, on the basis of

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A new species of *Roebooides* (Teleostei: Characidae) from Costa Rica and Panama, with a key to the middle American species of the genus

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 Carlos A. Garita-Alvarado³, and Caleb D. McMahan²

A new species of *Roebooides* is described from the Pacific slope of Costa Rica and Panama. *Roebooides bussingi* differs from all other Central American *Roebooides* and all members of the *R. guatemalensis* species group by the following combination of characters: presence of 18-22 scales above the lateral line (vs. 12-16 in *R. dientito*); 15-22 scales below the lateral line (vs. 10-14 in *R. dientito*, and 20-24 in *R. loftini*); an inconspicuous, sometimes absent, crescent-shaped humeral spot (vs. a large round, conspicuous humeral spot in *R. carti*, *R. dayi*, *R. dientonito*, *R. ilseae*, *R. loftini*, and *R. occidentalis*); a small wedge-shaped spot that does not reach the lateral line (vs. a large spot crossing the lateral line in *R. guatemalensis*); a teardrop shaped caudal spot (vs. caudal spot triangle shaped in *R. bouchellei*); and a dark band at the distal tip of the anal fin (vs. dark band absent in *R. bouchellei*). A key to all Middle American species of *Roebooides* is also presented.

Uma espécie nova de *Roebooides* é descrita da vertente pacífica da Costa Rica e Panamá. *Roebooides bussingi* difere de todas as outras espécies de *Roebooides* da América Central e de todos os membros do grupo *R. guatemalensis* pela seguinte combinação de caracteres: presença de 18-22 escamas acima da linha lateral (vs. 12-16 em *R. dientito*); 15-22 escamas abaixo da linha lateral (vs. 10-14 em *R. dientito* e 20-24 em *R. loftini*); mancha umeral inconspícua, as vezes ausente, no formato de meia lua (vs. mancha humeral conspicua e arredondada em *R. carti*, *R. dayi*, *R. dientonito*, *R. ilseae*, *R. loftini* e *R. occidentalis*); pequena mancha em forma de cunha, não alcançando a linha lateral (vs. mancha grande, atravessando a linha lateral em *R. guatemalensis*); mancha do pedúnculo caudal em formato de gota d'água (vs. mancha caudal com formato triangular em *R. bouchellei*); banda escura na margem distal da nadadeira anal (vs. banda escura ausente em *R. bouchellei*). Uma chave para todas as espécies de *Roebooides* da América Média é fornecida.

Key words: Central America, Characinae, Distribution, Freshwater, Pacific Slope.

Introduction

Roebooides Günther, 1864 includes 21 valid species (Eschmeyer, 2012). The genus has a wide distribution ranging from río Perros at Ixtepec in southern Mexico (Miller *et al.*, 2005) to the la Plata basin in northern Argentina (Lucena, 2007). Members of *Roebooides* are best known for their habit of tearing off and ingesting scales from other fishes (lepidophagy), which is presumably aided by conspicuous teeth on the external margin of the jaws

(Hahn *et al.*, 2000). The genus has its greatest species richness in South America (15 species), whereas in Central America only seven valid species are known, including the recently described *Roebooides loftini* Lucena, 2011. Six of these species are restricted to Lower Middle America (Costa Rica and Panama). *Roebooides bouchellei* is the only Middle American species with a large distributional range, extending from Panama to Southern Mexico (Miller *et al.*, 2005). Notably one third of all species of *Roebooides* have been described in the last decade.

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Peces comunes de la cuena del río Sarapiquí, Costa Rica

**Arturo Angulo Sibaja
Carlos Garita Alvarado**

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Listos para la electropesca, río San Lorenzo, Alajuela, Costa Rica, noviembre de 2011
De izquierda a derecha: Beatriz Naranjo-Elizondo, Carlos Garita Alvarado y Arturo Angulo



Atarrayando en una orilla del lago Managua, Nicaragua, diciembre de 2012

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