



## A new species of *Hyalinobatrachium* (Anura: Centrolenidae) from the Amazonian slopes of the central Andes, with comments on the diversity of the genus in the area

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### Abstract

We describe a new species of *Hyalinobatrachium* from the Amazonian slopes of the Andes in Peru and Bolivia on the basis of morphological, bioacoustic and genetic characteristics. *Hyalinobatrachium carlesvilai* sp. nov. can be distinguished from other species of *Hyalinobatrachium* by the combination of the following characters: (1) truncate snout in dorsal and lateral view; (2) white pericardium; (3) enameled dorsal, tarsal and cloacal folds; (4) hand webbing formula **III** 2<sup>-</sup> – 1<sup>+</sup> **IV**; (5) iris cream; (6) advertisement call consisting of a single, frequency-modulated note with a pulsed section followed by a tonal section. The new species had been previously identified as *Hyalinobatrachium munozorum* and *H. bergeri*. The advertisement call of the new species was previously assigned to *H. bergeri*. Here we describe the previously unknown call of *Hyalinobatrachium bergeri*. Additionally, we study the taxonomic status of *H. lemur* and *H. pellucidum* and place the former as synonym of the later. We extend the distribution of *H. pellucidum* to Departamento Cusco in southern Peru.

**Key words:** Bioacoustics; Centrolenid frogs; Cryptic species; Glassfrogs; *Hyalinobatrachium bergeri*; *Hyalinobatrachium lemur*; *Hyalinobatrachium munozorum*; *Hyalinobatrachium pellucidum*; mitochondrial DNA; Synonymy; Taxonomy

### Introduction

Centrolenid frogs, also known as glassfrogs, constitute a monophyletic group (reviewed by Guayasamin *et al.* 2008a) with roughly 150 recognized species arranged in 12 monophyletic genera (Guayasamin *et al.* 2009) distributed throughout the Neotropical wet forests from southern Mexico to southern Bolivia. A recent taxonomic effort on this group of batrachians during the last years has led to an increase of its alpha-diversity; however, several taxonomic problems are pending resolution (e.g. Kok & Castroviejo-Fisher 2007; Castroviejo-Fisher *et al.* 2008).

In this work, we describe a new species of the genus *Hyalinobatrachium* that has been previously misidentified with *H. bergeri* (Cannatella 1980) and *H. munozorum* (Lynch & Duellman 1973). We use morphological character states, morphometrics, bioacoustics and genetics to support the new species. Moreover, we compare advertisement calls previously assigned to *H. bergeri* with new recordings of this species and the one described herein, and conclude that some previous identifications were erroneous. Accordingly, we describe for the first time the advertisement call of *H. bergeri*. Additionally, we compare