



## A new species of marsupial frog (Anura: Hemiphractidae: *Gastrotheca*) from the Andes of southern Peru

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### Abstract

*Gastrotheca nebulanastes* **sp. nov.** from cloud forests in the upper Kosñipata Valley, Manu National Park, in the Andes of southern Peru is similar to *G. excubitor*, which inhabits grasslands in higher elevations than the cloud forests. The two species differ in relative lengths of the fingers, skin texture, coloration, and advertisement call. Although the new species has an elevational range of 2000–3300 m, it is most abundant at 2400–2800 m. A phylogenetic analysis of a previously defined clade of *Gastrotheca* based on a fragment of 16S mitochondrial gene provides strong support that the sister taxon to the new species is *G. atympana*, a species from farther north in the Cordillera Oriental in Peru.

**Key words:** Anura, distribution, ecology, *Gastrotheca*, Hemiphractidae, new species, phylogenetic relationships

### Resumen

*Gastrotheca nebulanastes* **sp. nov.** de los bosques nublados de la parte alta del valle de Kosñipata, Parque Nacional del Manu en los Andes del sur de Perú se asemeja a *G. excubitor*, una especie que vive en la puna a elevaciones por encima del límite superior del bosque nublado. Las dos especies se diferencian por la longitud relativa de sus dígitos, textura de la piel, coloración y canto nupcial. A pesar de tener un rango de distribución altitudinal entre los 2000 y 3300 m, la nueva especie es más abundante a elevaciones entre 2400–2800 m. El análisis filogenético de un fragmento del gen mitocondrial 16S de un clado de *Gastrotheca* previamente definido apoya la hipótesis de que el taxon hermano de la nueva especie es *G. atympana*, una especie distribuida más al norte en la Cordillera Oriental en Perú.

**Palabras claves:** Anura, distribución, ecología, *Gastrotheca*, Hemiphractidae, nueva especie, relaciones filogenéticas

### Introduction

In 1971 the senior author and Thomas H. Fritts discovered a distinctive, terrestrial species of *Gastrotheca* at the crest of Abra Acanacu (now Abra Acjanaco), a pass in the Cadena del Paucartambo, the northwestern part of the Cordillera de Carabaya, which is a part of the extensive Cordillera Oriental of the Andes of Peru and now protected as part of Manu National Park. They found the new species, *G. excubitor* (Duellman & Fritts, 1972) in wet puna also inhabited by the widespread *G. marsupiata* (Duméril & Bibron, 1841). Subsequently, both species were collected again at Abra Acanacu in 1975 and 1977, but during the latter trip specimens referred to *G. excubitor* were also found in humid montane forests at lower elevations northwest of Abra Acjanaco, as well as at other abras at elevations above 3500 m in Departamento (= Región) Cusco in southern Peru. More recent fieldwork (2007 and 2009) by one of us (AC) resulted in the collection of more individuals at localities in the humid montane forest, as well as the discovery that *Hyla antoniochoai* De la Riva and Chaparro (2005) is an arboreal species of *Gastrotheca* in the upper Kosñipata (formerly Cosñipata) Valley (Catenazzi & Lehr 2009).