



New conditions and intraspecific variations in hand and foot muscles in *Pristimantis bogotensis* (Peters, 1863) (Amphibia:Anura: Strabomantidae)

LINA SALGAR^{1,2}, JULIO MARIO HOYOS^{1,4}, & ANDRÉS ACOSTA³

¹ Pontificia Universidad Javeriana, Departamento de Biología, Unidad de Ecología y Sistemática (UNESIS), A.A. 56710, Bogotá, Colombia, South America. E-mail: ² linasalgar@hotmail.com

³ Pontificia Universidad Javeriana, Departamento de Biología, Unidad de Ecología y Sistemática (UNESIS), A.A. 56710, Bogotá, Colombia, South America. E-mail: andres.acosta@javeriana.edu.co

⁴ Corresponding author. E-mail: jmhoyos@javeriana.edu.co

Abstract

Some conditions from complete dissection of hand and foot muscles of *Pristimantis bogotensis* (Strabomantidae) presented here have not been reported in anurans. One muscle not described before was found: the *m. abductor ulnocarpalis*. Muscles of the forearm, the hand, and the foot were found as exclusive characters in this species. Two minor variants (*sensu* Raikow *et al.*, 1990) were identified, showing that it is important to examine hind and forelimbs of both sides of the body (left and right) in anatomical studies for detecting intraspecific variation.

Key words: Typical conditions, variation, forearm, palmar surface, plantar surface, dorsal surface

Resumen

Algunas condiciones de los músculos de la mano y del pie de *Pristimantis bogotensis* (Strabomantidae) presentados aquí no se han divulgado en anuros. Se encontró un músculo no descrito antes al cual se le dio el nombre de *m. abductor ulnocarpalis*. Músculos del antebrazo, de la mano y del pie fueron encontrados como caracteres exclusivos en esta especie. Se identificaron variantes de menor importancia y demostrando que necesitamos examinar ambos lados (izquierdo y derecho) de los especímenes para identificar variaciones intraespecíficas.

Palabras claves: Condiciones típicas, variaciones, antebrazo, superficie palmar, superficie plantar, superficie dorsal

Introduction

Since Gaupp's (1896) remarkable work, several researchers have been trying to use the anuran autopodium (hands and feet) myology for classification and phylogenetic reconstruction. An example of this is the study of Dunlap (1960) on feet muscles in many species of frogs; he concluded that some muscles have a systematic value. Another important work about foot and hand bones and muscles in frogs is that of Andersen (1978). This author described these in many species advocating their paramount importance in frog systematics. Egan (1995) carried out phylogenetic analyses of relationships among the Myobatrachidae and Limnodynastidae families based on such characters. Burton (1996) recognized some hand muscles as character states to identify the genera of Pelodyadinae (Hylidae), and likewise Burton (1998a) proposed character states for leptodactylid hand muscles, presenting evolutionary trends of some of these characters. He found conditions not shared with species from different genera of the same family, supporting the monophyly of a number of leptodactylid groups. In the same manner, based upon hand muscles, Burton (1998b) identified an apomorphy