Zootaxa 1512: 51–64 (2007)
www.mapress.com/zootaxa/

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

A new species of palustrine *Eleutherodactylus* (Anura: Leptodactylidae) from Puerto Rico

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Abstract

We describe adult morphology, advertisement call, and natural history diagnostic of a new species of *Eleutherodactylus* from a fresh water (palustrine) herbaceous wetland of northern coastal Puerto Rico. The new species is apparently the smallest Puerto Rican *Eleutherodactylus* and is morphologically most similar to *E. gryllus*, which inhabits high-elevation humid forests and cloud forests. Although both species have well-developed glands throughout the body, morphological ratios, body coloration, frequency of calls, call structure, and habitat association indicate that it is a well-differentiated species. The new species and *E. gryllus* may have diverged from an ancestral wetland-dwelling species.

Key words: coastal ecosystems, Coqui Llanero, freshwater, herbaceous, karst, NMDS

Introduction

THE anuran genus *Eleutherodactylus* (Duméril & Bibron) represents the most species-rich genus of vertebrates with more than 600 recognized species in Central, South America, and the West Indies (Frost, 2002; Frost *et al.*, 2006). Although herpetology in Puerto Rico began formally in 1820 (Thomas & Joglar, 1996), it was not until 1863 that the first *Eleutherodactylus*, *E. antillensis* (Reinhardt & Lutken), was described. By 1976, the addition of *E. jasperi* (Drewry & Jones), the first New World anuran reported to be ovoviviparous (Drewry & Jones, 1976), comprised 15 *Eleutherodactylus* on the main island of Puerto Rico. The native anuran fauna of Puerto Rico has been nomenclaturally stable for 30 years and no additional species has been described since. Most of these descriptions were based, however, on studies in forest remnants in mid–high elevation areas, while herpetological studies in lowland wetlands were virtually nonexistent. The vast majority of these lowland wetlands were heavily altered mostly for agriculture since 1500's and for urban development since the 1930's, which may partly suggest that these areas were considered of little herpetological interest. On the other hand, ~94% of forested areas were cleared from 1930 to 1950 during the peak of agriculture activity (Birdsey & Weaver, 1987; López del Mar *et al.*, 2001; Lugo, 2004). Consequently, several ecologically specialized *Eleutherodactylus* like *E. jasperi* and two more Puerto Rican *Eleutherodactylus* from forested and high elevation areas are now presumably extinct (Joglar, 1998), mostly due to habitat destruction. Then, it was with great surprise that one of us (NRL) discovered a small, unknown *Eleutherodactylus* in a palustrine herbaceous habitat on the northern coastal plain, not far west from the capital city of San Juan (Fig. 1).

Accepted by M. Vences: 7 May 2007; published: 21 Jun. 2007