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Two new species of montane web-footed salamanders (Plethodontidae: *Bolitoglossa*) from the Costa Rica-Panamá border region

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Abstract

Two new species of lungless salamanders (Plethodontidae) are described from high montane habitats of the border region between Costa Rica and Panamá. *Bolitoglossa pygmaea* and *B. robinsoni* are distinguished from each other and from other salamander species in this remote area by differences in adult body size, external proportions, foot webbing, tooth counts and/or external coloration. Both new species are assigned to the *B. subpalmata* species group, subgenus *Eladinea*. The miniaturized *B. pygmaea* is remarkable in being extensively depigmented, yet having the peritoneum and stomach area heavily pigmented and visible through the body wall.

Key words: *Bolitoglossa pygmaea* **sp. nov.**, *B. robinsoni* **sp. nov.**, Cordillera de Talamanca, taxonomy, Central America, biogeography

Resumen

Se describen dos nuevas especies de salamandras sin pulmones (Plethodontidae) de hábitats montanos altos de la región fronteriza entre Costa Rica y Panamá: *Bolitoglossa pygmaea* y *B. robinsoni*. Se distinguen entre ellas y de otras especies de salamandras en esta remota área por el tamaño del cuerpo de los adultos, por las proporciones externas, por la membrana de los pies, por el número de dientes y por la coloración externa. Las dos especies se asignan al grupo de especies de *B. subpalmata*, subgénero *Eladinea*. La diminuta *B. pygmaea* es interesante por poseer poco pigmento y por tener el peritoneo y estómago con pigmento oscuro visible externamente.

Introduction

The high diversity of salamanders in Costa Rica and Panamá is due in part to a radiation in the Talamancan mountain range that remains poorly known. Costa Rica has 43 currently recognized species of salamanders (23% of the amphibians known from the country), and Panamá has 25 (12.7% of its amphibians) (salamanders are 8.9% of the World's amphibians, AmphibiaWeb 2008). While much larger countries, the United States and México, have larger numbers of species with 186 (65% of amphibians) and 131 (36.7%) salamanders, respectively, if one counts number of species per 10,000 km^2, Costa Rica (8.41) and Panamá (3.31) greatly exceed both the United States (0.19) and México (0.67). Other than Costa Rica, Panamá is exceeded only by Guatemala (3.67). The border region of Costa Rica and Panamá has a large and complex salamander fauna, one of the richest local salamander faunas anywhere (Brame *et al*. 2001; Hanken *et al*. 2005; Wake 2005; Wake *et al*. 1973, 2007). The area is in general difficult to access and has been rarely visited by herpetologists. The two species described in this paper, members of the subgenus *Eladinea* (as defined by Parra-Olea *et al.*

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