



A new species of *Dactyloa* from eastern Panama, with comments on other *Dactyloa* species present in the region

ABEL BATISTA^{1,2,5}, MILAN VESELY⁴, KONRAD MEBERT³, SEBASTIAN LOTZKAT^{1,2},
& GUNTHER KÖHLER¹

¹Senckenberg Forschungsinstitut und Naturmuseum Frankfurt, Senckenberganlage 25, 60325 Frankfurt a. M., Germany

²Johann Wolfgang Goethe-University, Institute for Ecology, Evolution & Diversity, Biologikum, Building C, Max-von-Laue-Straße 13, 60438 Frankfurt am Main, Germany

³Section of Conservation Biology, Department of Environmental Sciences, University of Basel, St. Johannis-Vorstadt 10, CH-4056 Basel, Switzerland

⁴Department of Zoology, Faculty of Natural Sciences, Palacký University, 17. Listopadu 50, 77146 Olomouc, Czech Republic

⁵Corresponding author. E-mail: abelbatista@hotmail.com

Abstract

Giant anoles of the genus *Dactyloa* have been considered to be represented in eastern Panama by six species. In this contribution, we describe a seventh species that is restricted to the Majé, San Blas, Darién, and Piedras-Pacora mountain ranges. The new species resembles *D. ibanezi*, *D. limon*, and *D. purpurescens* in external morphology but differs from these species in dewlap coloration, dorsal color pattern, morphometrics, and scalation. The recognition of the new species is further supported by DNA barcoding (genetic distances >2.7% in 16S and >7.8% in COI between the new species and all other species of *Dactyloa*). We discuss the taxonomic identity of *D. purpurescens*, and, based on morphological evidence, we place *D. chocorum* in the synonymy of the former species. An identification key for all 11 *Dactyloa* species occurring in Panama is provided.

Key words: *Anolis*, barcoding, *Dactyloa*, Eastern Panama, Integrative taxonomy, morphology

Introduction

Ten species of *Dactyloa* Wagler occur in Lower Central America (Köhler 2008; Jaramillo *et al.* 2010; Lotzkat *et al.* 2013; Uetz & Hošek 2014): *Dactyloa casildae* (Arosemena, Ibáñez & de Sousa, 1992), *D. chloris* (Boulenger, 1898), *D. chocorum* (Williams & Duellman, 1967), *D. frenata* (Cope, 1899), *D. ginaelisae* Lotzkat, Hertz, Bienentreu & Köhler, 2013, *D. ibanezi* (Poe, Latella, Ryan & Schaad, 2009), *D. insignis* (Cope, 1871), *D. kunayalae* (Hulebak, Poe, Ibáñez and Williams, 2007), *D. latifrons* (Berthold, 1845), and *D. microtus* (Cope, 1871). The presence of an eleventh species, *D. purpurescens* (Cope, 1899), has been suggested for eastern Panama by Chun (2010), but no voucher specimens with definite locality are available to support this assumption. Recently, a detailed revision of *Dactyloa* from Lower Central America west of the Panama Canal (Lotzkat *et al.* 2013) showed that all ten confirmed species occur in Panama, where they are distributed as follows: three of them (*D. frenata*, *D. kunayalae*, *D. insignis*) have wider distributions covering eastern as well as western Panama, another four (*D. casildae*, *D. ginaelisae*, *D. ibanezi*, *D. microtus*) occur in western Panama only, and the last three (*D. chloris*, *D. chocorum*, *D. latifrons*) are restricted to the Chocoan biogeographical region (Williams & Duellman 1967; www.herpnet2.org/, accessed on August 28th 2014; Torres-Carvajal *et al.* 2014) of eastern Panama (Savage 2002; Köhler 2008; Poe *et al.* 2009; Jaramillo *et al.* 2010; Lotzkat *et al.* 2013). All mentioned species are members of the *Dactyloa latifrons* species group sensu Nicholson *et al.* (2012) and of the *latifrons* series of Castañeda & De Queiroz (2013). Only a few specimens of *Dactyloa chloris*, *D. kunayalae*, *D. insignis*, and *D. latifrons*, respectively, have been reported from eastern Panama until now.

Recently, *Dactyloa limon* (Velasco & Hurtado-Gómez, 2014) was described as a new species related to *D.*