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Faunistic relations between the ranges of the Eastern Arc mountains: relocation of *Peronura hildebrandtiana* Karsch, 1889 (Tettigoniidae: Phaneropterinae), the description of the male and implications from its phylogeographical pattern

CLAUDIA HEMP
University of Würzburg, Dept. Animal Ecology and Tropical Biology (Zoology III), Am Hubland , 97974 Würzburg, Germany.
E-mail: claudia.hemp@uni-wuerzburg.de

Abstract

P. hildebrandtiana Karsch, 1889 was relocated in the Taita Hills of Kenya. To present only the single female holotype was known. Male and female specimens of this species were found along forest edge in herbaceous vegetation in the Ngangao forest reserve. Closest relative of *P. hildebrandtiana* Karsch is *P. uguenoensis* Hemp restricted to the North and South Pare mountains. *P. hildebrandtiana* is re-described and the male newly described in this paper. Ecological information is provided and co-occurring Saltatoria species listed. Faunistic similarities in flightless Saltatoria between the Taita Hills and the South Pare mountains are discussed.

Key words: Eastern Arc mountains, *Peronura*, Acrometopini, Kenya, Tanzania, phylogeography

Introduction

The eastern Arc mountains of Tanzania and Southern Kenya are geologically ancient formations with an estimated age of over 30 million years (Burgess *et al.* 1998). They are well known hotspots of endemism and biodiversity as shown for various vertebrate and invertebrate groups (e.g. Robertson 2002; Burgess *et al*. 2007; Lawson 2010). The high diversity and degree of endemism was thought to be a result of the high geological age of these mountain ranges. However, it was shown by Hemp (2010), Hemp *et al*. (2010) and Hemp and Kehl (2010) that part of the diversity found at least in flightless Saltatoria is the result of climatic fluctuations of the past 1.8–0.6 million years. The old geological age of these mountain ranges is reflected in Saltatoria in species such as the monotypic phaneropterine *Euryastes jagoi* Ragge, restricted to montane forest of the West Usambara mountains or the most basal species of *Aerotegmina* Hemp found in the South Pare mountains (Hemp 2006). However, the majority of flightless Saltatoria with arrays of closely related species on East African mountains belong to evolutionary young radiations such as *Melanoscirtes* Hemp within the subtribe Karniellina of Conocephalinae (Hemp *et al*. 2010), the lentulid genus *Rhainopomma* Jago (Schultz *et al.* 2007; Hemp *et al.* 2007), the eumastacoid genus *Chromothericles* Descamps (Hemp 2009), the catantopine genus *Ixalidium* Gerstaecker or the tettigoniid genus *Anthracites* Redtenbacher (latter two genera, Hemp unpubl.).

The East African genus *Peronura* contains to present three species, *P. clavigera* Karsch, *P. uguenoensis* Hemp and *P. hildebrandtiana* Karsch. The description of *P. hildebrandtiana* is based on the single female holotype. As there were no data available for the male the status of this species was in doubt. Ragge (1960) mentioned that the female lacks the tubercles at the base of the ovipositor and he suggested that this specimen probably belongs to *Horatosphaga*. *P. clavigera* is a wide-spread species in East Africa being found from savanna habitats to the montane zone of mountains. As the other *Peronura* species it prefers herbaceous vegetation. *P. uguenoensis* was described from the North Pare mountains where it occurs in lush herbaceous vegetation in remnants of submontane and montane forest edge at elevations between 1300 and 1750 m (Hemp 2002). In the South Pare Mountains it was recorded at an elevation of about 1400 m in lush shady grassland vegetation beside a small river (Hemp, unpubl.).

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