

## Revisionary study of *Pediella* Roberts (Orthoptera: Acrididae: Melanoplinae) from the Andes Highlands

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### Abstract

The genus *Pediella* Roberts, described originally from the Venezuelan Páramos is reviewed. Three new species from the Peruvian Puna are described. The genus shows a striking disjunct distribution. It is the only Melanoplinae genus known to occur at the Páramos and Puna highlands above 3000 meters. *Pediella* exhibits a homogeneous morphology across species. Differences among species are rather small, observed mostly in the shape of the male cerci, phallic complex, and coloration of the hind tibiae. The edition of this paper has been formatted with embedded links to images of type specimens, maps based on geo referenced specimen data and species key available on the Orthoptera Species file online (<http://orthoptera.speciesfile.org>).

**Key words:** grasshoppers, cybertaxonomy, disjunct distribution, Páramo, Puna, Orthoptera Species File (OSF online)

### Introduction

The Páramo and the Puna are two unique high altitude grassland ecosystems in the Andes (Vuilleumier & Monasterio, 1987; Lutelyn *et al.* 1992). They occur between 3200–4500 meters of altitude and represent the struggle of plant and animal life against extreme cold and solar radiation. Human activities are limiting biodiversity in these ecosystems, while global warming is causing the retreat and sometimes the disappearance of these mountain life zones which were identified as highest priority for biodiversity conservation (Dinerstein *et al.* 1995). Melanoplines are one of the few representative groups of the grasshopper fauna from these highland regions. *Pediella* Roberts is one of the Melanoplinae genera known from the Venezuelan Páramos. Roberts (1937) erected this genus based on its unique species *Pediella colorata*, represented by a male from the Andean region around Mérida, Venezuela. Interestingly, although surveys in the Venezuelan Páramos have been conducted, the nominotypic species of *Pediella* was never found again and it is only known by its type specimen. However, recent collecting trips in the highland Andes of Perú have rendered the discovery of three new species of *Pediella*.

The objective of this paper is to review the genus *Pediella*, a group of colorful melanopline species, to provide data on species distribution and habitats, and to describe three new species from the Peruvian Puna.

### Material and methods

Terminology for external morphology and male genitalia follows Otte (1981) and Amedegnato (1976), respectively. Descriptions of the species are mostly based on male specimens because many Melanoplinae