



The Little Lichen Dragon—an extraordinary katydid from the Ecuadorian Andes (Orthoptera, Tettigoniidae, Phaneropterinae, Dysoniini)

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Abstract

Lichenodraculus matti **gen. et sp. nov.** is described, along with its conspicuous diurnal calling song and some aspects of its interesting ecology and life history. The song allowed a complete acoustic assessment of the altitudinal distribution of this otherwise very cryptic canopy-dwelling insect. The nymph perfectly mimics epiphytic lichens growing in the same elevation range, and apparently the downside of this camouflage is a strictly lichenous diet.

Key words: Acoustic monitoring, altitudinal distribution, bioacoustics, camouflage, Ecuador, *Lichenodraculus* gen. nov., lichen, oligophagy, tropical montane rainforest, wind mimicry

Introduction

The neotropical tribe Dysoniini comprises about 50 species in currently ten genera (Eades et al.), with half of the species in the recently revised genus group *Dysonia* (Cadena-Castañeda 2011, erecting three additional genera). Most of them are whitish with contrasting patterns of dark markings, a coloration which most probably serves as camouflage, mimicking arboreal lichens. Of the new species described here, which represents also a new genus, the very close relationship to lichens could be established for probably the first time. Another peculiarity is the diurnal activity revealed by the low-pitched calling song of the male, which allowed an altitudinal distribution range assessment in the mountainous investigation area in south Ecuador, where this interesting katydid was discovered about fourteen years ago.

Material and methods

Fieldwork was done between August 1997 and January 2000. The sound recordings were made with a Laar Bridge Box XL (BVL von Laar, Klein-Görnow, Germany), which has an ultrasound sensitive microphone and a digital loop memory from which fragments of 5.12 seconds (at 400 kHz sampling rate), 10 times slowed down, were stored on DAT (digital audio tape) using a Sony Walkman (model TCD-D7). The two recorded individuals were accommodated in a gauze cage. Sound analysis was done with Avisoft-SASLab Pro (R. Specht, Berlin). More and larger photographs, a sound recording, as well as a point map of the type locality are available in Orthoptera Species File Online (Eades et al.). Images of all species of the other genera mentioned here are also available there (mostly including photographs of type specimens). The free focus stacking software CombineZ (by Alan Hadley, version 5.3, available from: www.hadleyweb.pwp.blueyonder.co.uk) was used for the dorsal view and terminalia details of the holotype in figure 2.