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A new genus and species of tetrigid (Orthoptera: Tetrigidae: Cladonotinae) from Dominican Republic, Hispaniola

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Abstract

A new genus and species of tetrigid, *Antillotettix nanus,* is described from several mountain localities (1000 to 1500 m) in the Bahoruco and Central mountains of the Dominican Republic, Hispaniola. *Antillotettix* is characterized by a very small and rounded body, a frontal costa opened some 30º and a slightly tectate and roundly truncate pronotum that covers just over half the abdomen. It is the smallest of known Hispaniolan tetrigids.

Resumen

Se describe el nuevo género y especie de tetrígido *Antillotettix nanus* a partir de varias localidades de montaña (1,000-1,500 m) en la Sierra de Bahoruco y Cordillera Central de República Dominicana, Hispaniola. *Antillotettix* se caracteriza por ser muy pequeño y redondeado, tener una costa frontal abierta unos 30 grados y un pronoto algo tectiforme y truncado en forma redondeada, que cubre algo más de la mitad del abdomen. Este es el tetrígido más pequeño conocido de la Hispaniola.

Key words

Tetrigidae, Cladonotinae, Haiti, Dominican Republic, new genus, new species

Introduction

This paper is another contribution to the characterization of the West Indian fauna of Tetrigidae. Previously, Perez-Gelabert *et al.* (1998) described 12 species of Cladonotinae tetrigids from Hispaniola and Cuba, 10 of them from Haiti and the Dominican Republic (mostly La Selle, La Hotte and Bahoruco ranges). Subsequently, Perez-Gelabert & Otte (1999) described a new species of *Choriphyllum* Serville from the Bahamas. Before these works, only 2 species of tetrigids, both of the subfamily Tetriginae and widely distributed in the Caribbean, were known to occur in Hispaniola: *Paratettix freygessneri* Bolívar and *Micronotus quadriundulatus* Redtenbacher. This fauna is still little known, as many of the species are recorded from but few specimens and single or few localities. It is likely to be much more diverse, particularly in the larger islands of Cuba and Hispaniola, which contain substantial mountain areas and complex environments across their territories.

Here I describe a new genus and species of Cladonotinae tetrigids from mountain localities in Sierra de Bahoruco and the Cordillera Central, Dominican Republic. The number of tetrigid species known to occur in the West Indies is raised to 25.

Methods and Materials

Descriptive terminology follows Shishodia (1991). Photographs were taken with a JVC KY-F70 digital camera mounted on a Wild M400 stereoscope. Measurements were made using an ocular micrometer with precision to 0.01 mm. Specimens studied in this paper will be deposited in the following collections: MTEC, Montana State University, Bozeman, MN; ANSP, Academy of Natural Sciences, Philadelphia, PA; CMNH, Carnegie Museum of Natural History, Pittsburgh, PA; and NMNH, National Museum of Natural History, Washington, DC.

SUBFAMILY CLADONOTINAE

Antillotettix Perez-Gelabert, new genus

Diagnosis.—This genus can be differentiated from other known Neotropical Cladonotinae by its very small body size (4 to 7 mm), rounded overall shape, integument coarsely granulose, and by its pronotum: somewhat tectate anteriorly, but elevated only slightly higher than the head, and posteriorly extending over ½ to ¾ of the abdomen. It specifically differs from *Truncotettix* Perez-Gelabert *et al.* and *Mucrotettix* Perez-Gelabert *et al.*, the more superficially similar Cladonotinae in Hispaniola, by having its frontal costa with rami not so widely divergent, but open some 30º and by the shape of its truncated posterior pronotal margin (Table 2). This genus is known only from the Sierra de Bahoruco and Cordillera Central ranges in the Dominican Republic, Hispaniola (Fig. 8).

Description.—See species description below.

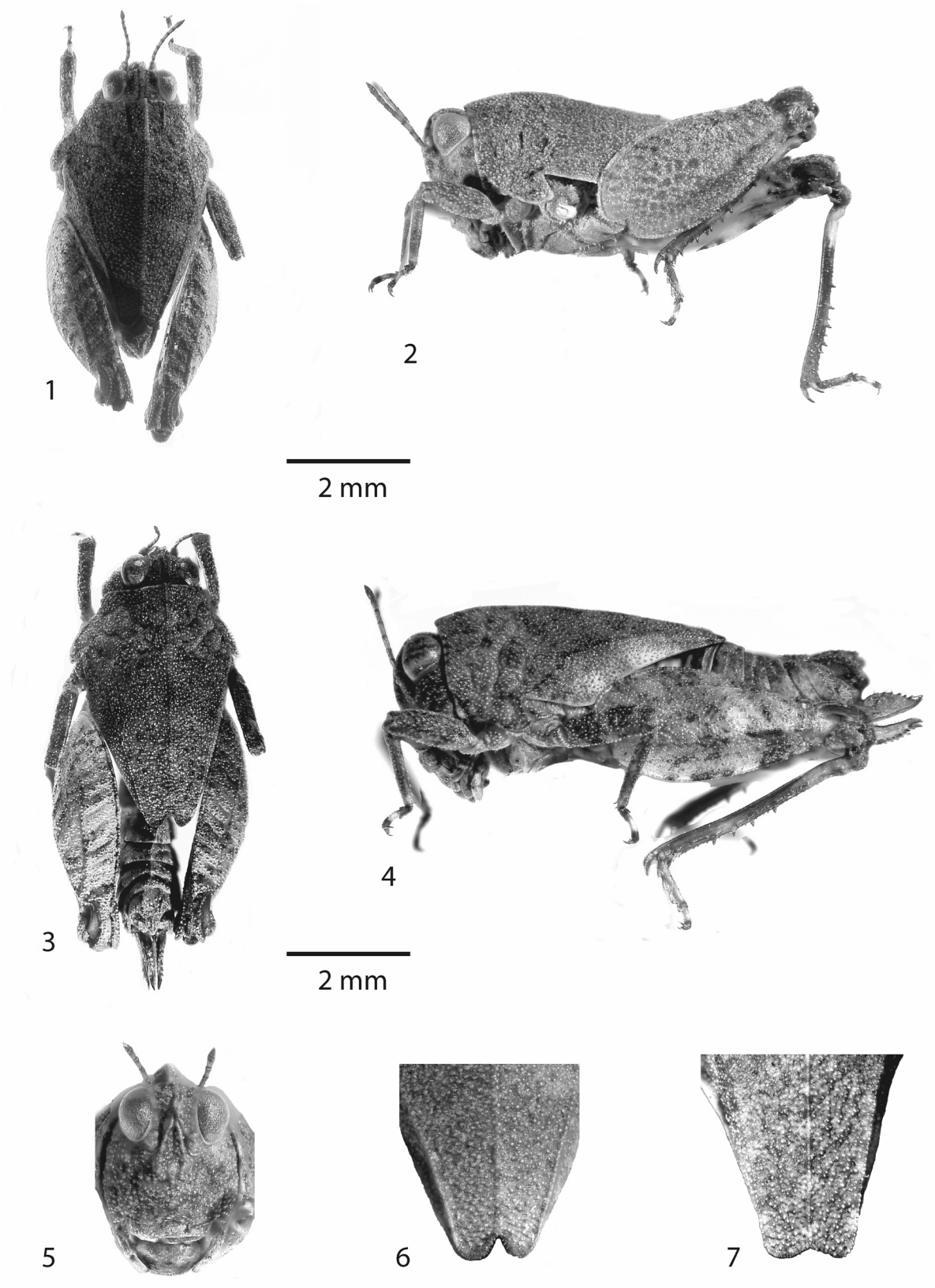
Etymology.—Meaning antillean tetrigid. This name is masculine.

Type species.—*Antillotettix nanus* Perez-Gelabert, new species

Antillotettix nanus Perez-Gelabert, new species
Figs 1-8

Description.—**Male:** Very small body size (4 to 7 mm, Table 1), somewhat rounded in general body shape, integument coarsely granulose with more irregular surface over prozona. Overall coloration gray to light brown, lightly mottled by pale areas. Head: Small and partially covered by pronotum, which does not project over the head, its middle carina only slightly raised anteriorly. Eyes globular and protruding, in contact with the anterior pronotal margin (Figs 1, 2). Occiput with 2 fossulae at sides of each eye. Vertex carinated, divided by middle carina of frontal costa, slightly wider than width

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Figs 1-7. Morphological features of *Antillotettix nanus*. 1, Habitus of male holotype (dorsal); 2, Male holotype (lateral); 3, Female allotype (dorsal); 4, Female allotype (lateral); 5, Face of holotype showing branching carinae of frontal costa; 6, Distal pronotum of holotype; 7, Distal pronotum of paratype from Jánico.

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Table 1. Dimensions in mm of *Antillotettix nanus* n. sp.

	BL	PL	IOD	EDI	AFL	HFL	HTL
HT♂	4.10	3.00	0.40	0.48/0.37	1.05	3.00	2.50
AT♀	6.60	3.50	0.48	0.52/0.42	1.20	3.60	2.95
PT♂1	4.50	3.30	0.38	0.48/0.37	1.05	3.00	2.50
PT♂2	4.95	3.70	0.47	0.50/0.38	1.15	3.45	2.55
PT♂3	4.75	3.50	0.45	0.47/0.32	1.15	3.45	2.65

BL=body length; PL=pronotum length; IOD=interocular distance; EDI=eye diameter (max./min.); AFL=anterior femur length; HFL=hind femur length; HTL=hind tibia length. HT= Holotype, AT= Allotype, PT= Paratype. HT♂ from El Aceitillar; AT♀ from El Aceitillar; PT♂1 from El Aceitillar; PT♂2 from Jarabacoa, PT♂3 from Jánico.

Table 2. Diagnostic morphological characters of *Antillotettix*.

	Antillotettix
Antennae	10-segmented
Frontal costa	Not widely forked (opened 30 degrees) (Fig. 5)
Pronotum	Anteriorly tectate with marked medial carina, only slightly raised (Figs 2, 4, 5), covering ½ to ¾ of abdomen (Figs 1, 3), roundly truncated posteriorly with medial notch (Figs 6, 7)

of eye. Frontal costa protruding, diverging below ocelli some 30° (Fig. 5). Antennae slightly longer than anterior femora, comprised of 10 articles more or less equal in length and >2× as long as wide, the last shorter and acutely terminated. Thorax: pronotum elevated highest and tectiform at level of humeral angles, but only slightly higher than head. More granulated and irregular in prozona. Lateral carinae short, delimited at both sides by remnants of transverse sulcus. Pronotal lobes subquadrate, their outer margin rounded. Pronotum extending back to near abdominal end, tapering and flattening posteriorly, but not covering abdominal end. Anterior pronotal margin with only minute medial tip produced forwards. Posterior pronotal margin forming angular concavity (rounded serrated edges at sides of a medial notch) (Figs 1, 3, 6, 7). Wings: completely absent. Legs: anterior and middle femora not markedly compressed, without lobes or large nodules. Hind femora large, robust, thickened, with superior carina strong, upper marginal area lined by angular rugosities, paginal area with granular nodules. Hind tibiae with 4 internal and 5 external spines that increase in size distad. First and third tarsi marked by pale areas, the first area 1.5× longer than the third.

Variation.—Although agreeing in general body form with the specimens from El Aceitillar, the male from Jánico has a more irregular and granulated pronotum, not clearly tectate anteriorly (Fig. 7). Also its posterior pronotal margin is wide, not markedly rounded at the sides of a smaller notch. In the male from Jarabacoa the posterior pronotal margin is more similar to that of specimens from the type locality. The male from Jánico also has more slender anterior femora. Further study supplemented with additional specimens may demonstrate that the Jánico population represents a second species of *Antillotettix*.

Female: Slightly larger than male but generally with overall similar features (Figs 3, 4). Pronotum only covering about half abdominal length. Valves of ovipositor with 5 to 6 outwardly pointed teeth.

Etymology.—The species epithet *nanus* refers to the very small size of these orthopterans.

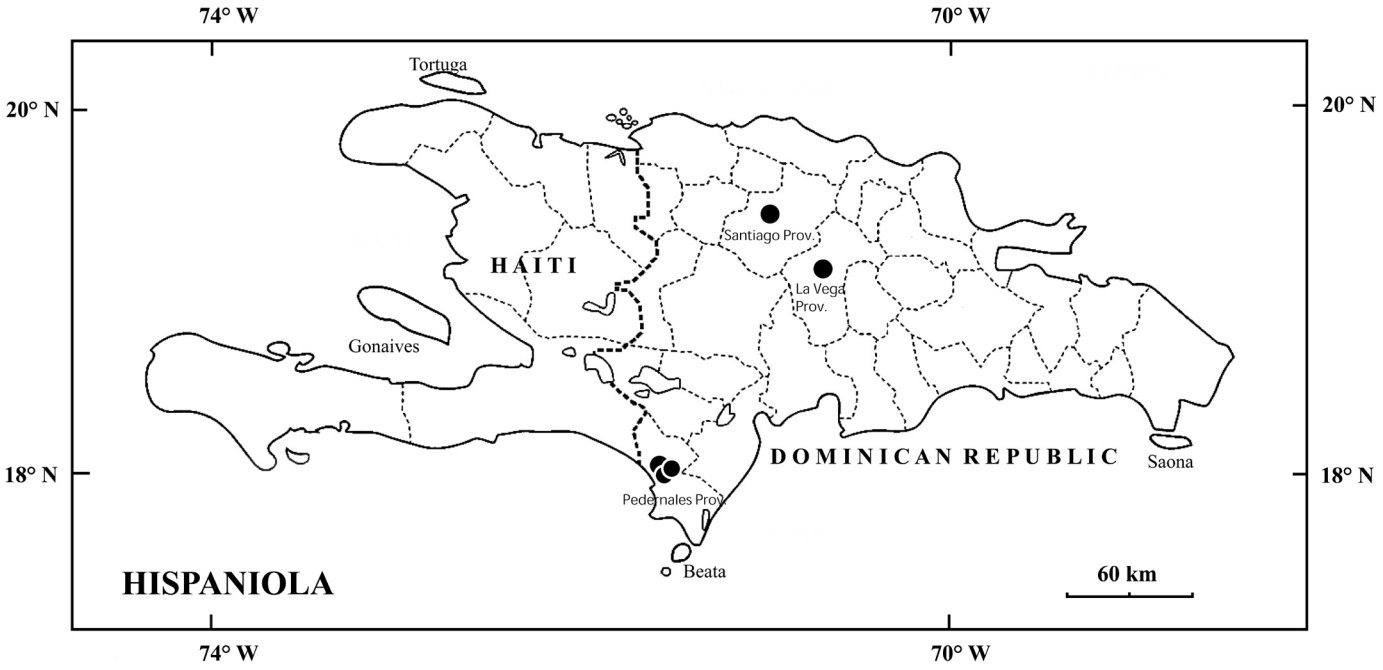


Fig. 8. Map of Hispaniola showing the known distribution of *Antillotettix nanus* in Dominican Republic.

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Type material.—Holotype: ♂. Dominican Republic, Pedernales, 30 km N Cabo Rojo, 1070 m, 18-07N, 71-39W, 27.ix.1991, R. Davidson, C. Young, S. Thompson, J. Rawlins, reservoir, pine, woods (CMNH). Allotype: 1 ♀, Dominican Republic, Pedernales Prov., El Aceitillar, Reserva de agua, km 30 Alcoa rd., 14.x.1998, B. Hierro, D. E. Perez-Gelabert (ANSP). Paratypes: 1 ♂, Dominican Republic, Jarabacoa, xi.1950, L. H. Krauss (NMNH). 1 ♂, Dominican Republic, Santiago Prov., Jánico, Botanical garden, 30.ix.1996, S. Navarro, D. E. Perez-Gelabert (ANSP). 1 ♂, Dominican Republic, Prov. Pedernales, 35 km N Cabo Rojo, El Aceitillar - Las Abejas, 1250 - 1430 m, 23.viii.1988, M. Ivie, Philips, & Johnson (MTEC). 2 ♀♀, Dominican Republic, RD-135, ~7 km Rd. to Caseta 1, Parque Nacional Sierra de Bahoruco, Independencia Prov., 18°17.711'N 71°34.335'W, 777 m, 3.vii.2003, D. Perez, R. Bastardo, B. Hierro.

Habitat.—The type locality and area of collection for 3 of the 7 specimens is just above 1000 m of elevation on the southern face of El Aceitillar, Sierra de Bahoruco, the species range extending to higher elevations of the same mountains, at least up to 1430 m and down to their northern slopes. At El Aceitillar these insects were collected on bare ground and seasonally dry areas, interspersed with low vegetation. Their very small size makes them difficult to find and collect in this environment. The Jarabacoa and Jánico populations are also found near 1000 m of elevation, but on 2 different areas of the Dominican Cordillera Central.

Acknowledgments

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References

Perez-Gelabert D. E., Hierro B. and Otte D. 1998. New genera and species of Greater Antillean grouse-locusts (Orthoptera: Tetrigidae: Cladonotinae). Journal of Orthoptera Research 7: 189-204.

Perez-Gelabert D. E. and Otte D. 1999. A new species of *Choriphyllum* Serville (Orthoptera: Tetrigidae: Cladonotinae) from the Bahamas. Transactions American Entomological Society 125: 453-458.

Shishodia M. S. 1991. Taxonomy and zoogeography of the Tetrigidae (Orthoptera: Tetrigoidea) of North Eastern India. Rec. Zool. Surv. India, Occas. Pap. 140: 1-203.

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