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A new species of *Lactista* (Acrididae: Oedipodinae) from St. Eustatius, West Indies

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Abstract

Lactista eustatia n. sp. is described from St. Eustatius, West Indies. This is the first record of the genus in the West Indies.

Key words

Orthoptera, Acrididae, *Lactista*, St. Eustatius, West Indies

Introduction

The genus *Lactista* Saussure includes eight species distributed from southwestern US through lowland Mexico and Central America to Venezuela. The genus in Mexico was treated by Hebard (1932) and later reviewed and revised by Otte (1984). It had not been recorded from the West Indies. Individuals occur on disturbed or eroded ground and occasionally beaches. Orthopterans collected by A. C. J. Burgers on St. Eustatius, West Indies, were provided by the Zoölogisch Museum, Amsterdam. A review of specimens revealed a new species of *Lactista*.

St. Eustatius, Saba, and St. Maarten comprise the northern part of the Netherlands Antilles. St. Eustatius, about 243 km east of Puerto Rico, is 30 km² (ca. 8 km long, 3.7 km wide). The trade winds are predominantly easterly and monthly mean temperatures range from 24°C to 27°C in the central region. Precipitation is very erratic but mean values range from 37 mm (Mar) to 165 mm (Sept) on the elevated central plain. Annual precipitation reaches 1500-2000 mm on the high slopes of a volcanic crater. A short beach is on the west side of the island and hills occupy the northern third. Vegetation on the plain, coastal area, and northern hills is a subtropical dry forest scrub consisting of sparse to dense grass, a variety of shrubs, and scattered small trees. The vegetation changes to a subtropical moist forest on the upper slopes of the crater (Stoffers 1956).

Lactista eustatia n. sp.

Type.—Holotype male: St. Eustatius, near Oranjestad, 21-Feb-1949, A. C. J. Burgers.

Diagnosis.—Table 1 shows morphological characteristics of *Lactista* species. The major diagnostic characteristic is the incomplete peripheral dark band on the hindwing that curves outwardly from the middle of the posterior margin one half to two thirds of the distance to the anterior margin (Fig. 4). All other *Lactista* species have a complete band except *L. humilis*, where the band may be slightly

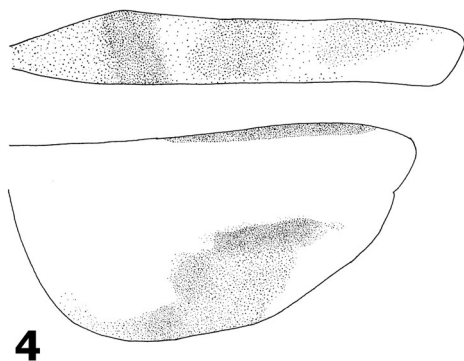
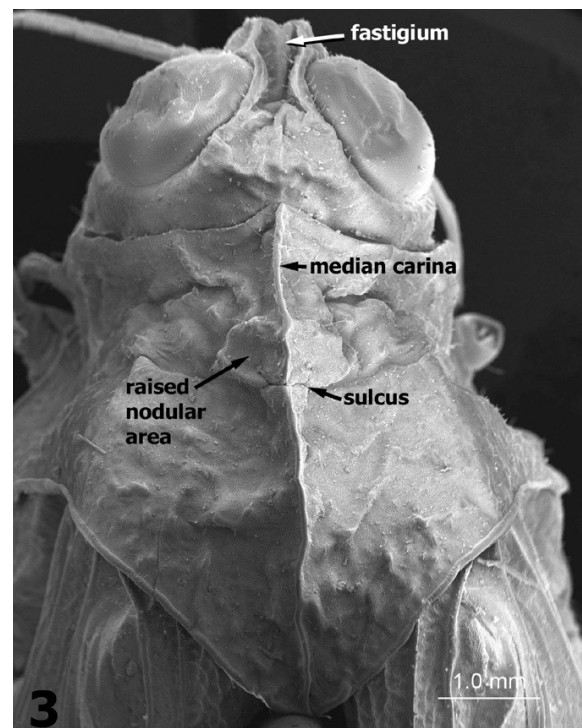
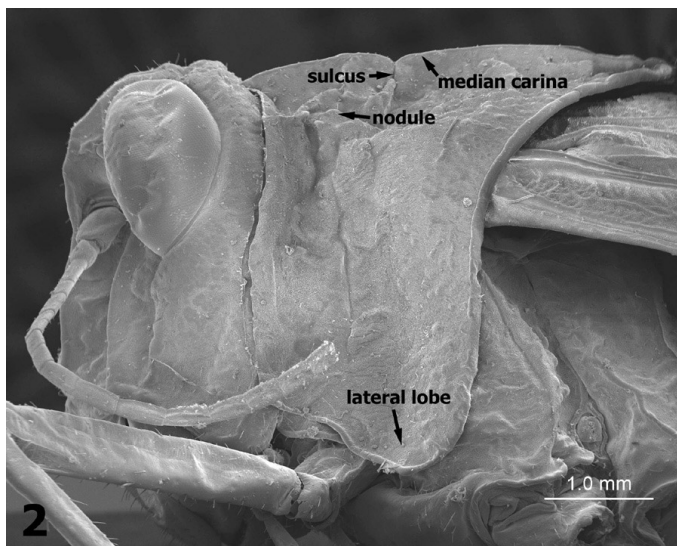
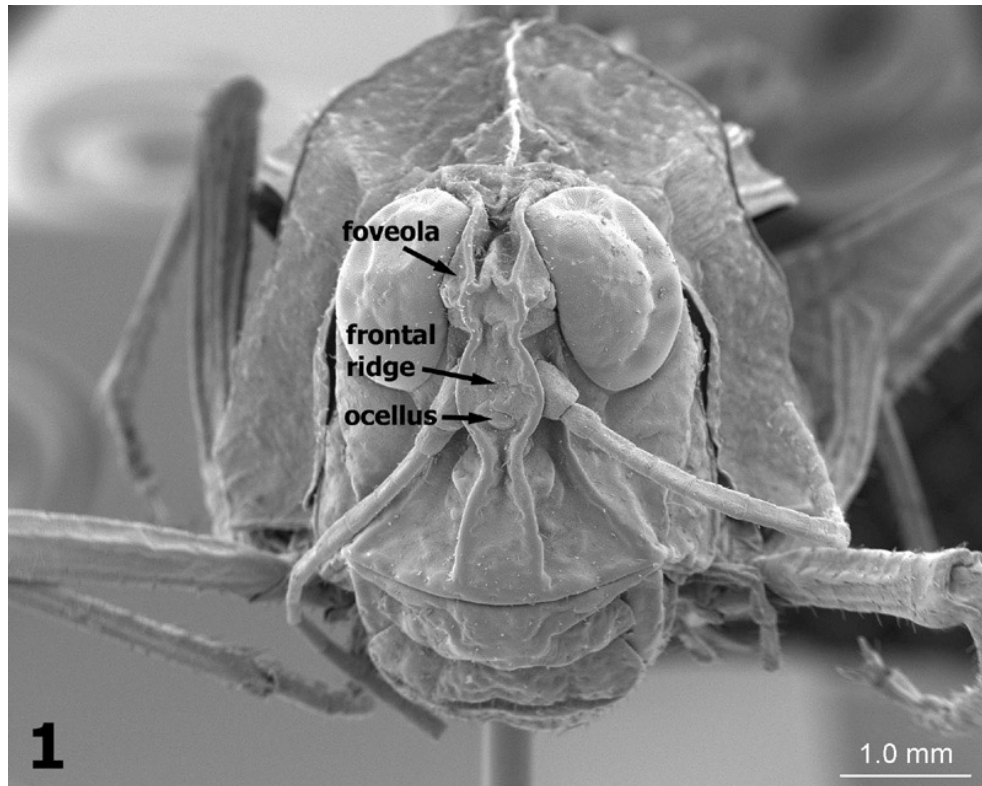
interrupted near the anterior margin. The combination of a weakly angulate or (rarely) rounded lateral lobe with a weak or absent apical projection, separates *L. eustatia* from all species except *L. micrus*. The angle of the pronotal posterior margin is 90° or more, which separates *L. eustatia* from all species except *L. humilis* and *L. micrus*. The latter two species are further differentiated from *L. eustatia* by 1) the position and width of the hindwing band along the posterior margin, i.e., it extends only slightly, rather than extensively, along the posterior margin and is relatively narrow, rather than broad, in the two species (cf. Otte 1984); and by 2) the pale translucent blue or green color of the hindwings, rather than the translucent yellow of *L. eustatia* n. sp.

Description.—Specimens were stored in alcohol by the collector which caused slight to moderate shrinking of some surfaces, likely some loss of body color, and a slight loss of color in the basal portion of the hindwings.

Males: Head (Fig. 1): antennae ca 6.5 mm long, 22-segmented flagellum, distal half darker than proximal half; upper end of frontal ridge below fastigium and elongated region below central ocellus depressed, lateral margins incurved between ocellus and upper depression and strongly incurved immediately below ocellus; lateral foveolae broad-oval, concave; fastigium produced anteriorly, strongly depressed between compound eyes, high lateral margins adjacent to eyes; vertex rugose, usually with broadly oval depressed region each side of weak or obsolete median carina.

Thorax (Figs 2,3): median carina of pronotum elevated, weakly arched, sometimes sinuous in prozona, cut deeply by one sulcus; dorsal and dorsolateral areas of prozona rugose from large flattish, bluntly pointed, or ridged nodules, raised aggregation of nodules each side of median carina near sulcus, aggregation may form a raised platform in an irregular triangular shape, raised triangle sometimes opaque; metazona with scattered small nodules dorsally, median carina moderately elevated, distinct lateral carinae absent, sometimes replaced with low irregular ridge; metazona posterior margin bluntly pointed, slightly greater than 90°; lower posterior margins of lateral lobes weakly angulate, usually incurved subapically, roundly pointed apex.

Legs: outer and inner margins of front and middle tibiae each with 3 to 4 black-tipped spines, 4 black-tipped subapical spines; outer margin hind tibia with 9 to 12 black-tipped spines, inner margin with 7 to 8, 2 pairs at apex; hind femora with two pale and two black



Figs 1-4. *Lactista eustatia* n. sp. 1. Frontal view of head. 2. Lateral view of pronotum; lateral lobe arrow indicates a weak node. 3. Dorsal view of pronotum and head. 4. Banding of tegmen and hindwing.

Table 1. Morphological characteristics of *Lactista* species.

	<i>eustatia</i>	<i>aztecus</i>	<i>elota</i>	<i>gibbosus</i>
Pronotum				
Median carina elevation				
Prozona	moderate-strong	weak	strong	very strong
Metazona	moderate	weak	strong	very strong
Metazona rugosity	moderate	weak to moderate	very weak	weak
Lateral lobe				
Shape	weakly angulate, rarely rounded	rounded	angulate	rounded
Apical projection	none to weak	no	yes	no
Angle of posterior margin	90° or more	< 90°	< 90°	< 90°
Tegmina				
No. major bands	2 to 3	1 to 2	1 to 2	usually none, occa- sionally 1 to 2
Strong distal maculae	occasionally	yes	yes	no
Hindwing				
Peripheral band	incomplete	complete	complete	complete
Color	translucent yellow	translucent yellow, deep yellow	yellow, orange	yellow
Hind femur inner face				
No. pale bands	2	2	2 dark	1
Other bands	2 dark	1 dark, 1 dull	2 dark	1 dark

Table 1 continued.

	<i>humilis</i>	<i>micrus</i>	<i>pellepidus</i>	<i>punctatus</i>	<i>stramineus</i>
Pronotum					
Median carina elevation					
Prozona	moderate	moderate	strong	strong	moderate
Metazona	weak to moderate	weak to moderate	moderate to strong	strong	moderate to strong
Metazona rugosity	veryweak	weak to moderate	moderate	moderate	moderate
Lateral lobe					
Shape	rounded	rounded-weakly angulate	angulate	angulate	angulate
Apical projection	no	none to weak	yes	yes	yes
Angle of posterior margin	90° or less	> 90°	< 90°	< 90°	< 90°
Tegmina					
No. major bands	1 to 2	2	3	2 to 3, occasionally 1	3
Strong distal maculae	occasionally	few, small	occasionally	usually	occasionally
Hindwing					
Peripheral band	slightly broken- complete	complete	complete	complete	complete
Color	translucent blue or green	translucent blue	yellow	orange-red, yellow	pale green, pale yellow, transparent
Hind femur inner face					
No. pale bands	2	2	2	2	2
Other bands	2 dark	1 dark, 1 dull	2 dark	2 dark	2 dark

bands on inner and ventral margins, proximal band longer.

Wings (Fig. 4): tegmina 6.4 times longer than greatest width, 2 to 3 brown transverse bands, third (distal) band fainter and elongated laterally, distal fifth of tegmina may be dull-whitish opaque; intercalary vein with *ca* 55 faint nodules per mm; hindwing faintly suffused with very pale yellow in basal half, dark brown to blackish peripheral, incomplete band curving outwardly from middle of posterior margin one half to two thirds distance to anterior margin; laterally elongated, slender dark band centered slightly distal to middle of anterior margin, extending from anterior margin to second (discoidal) vein.

Abdomen: base of epiproct expanded into three slightly concave quadrate regions, distal margins bowed and elevated, distal region epiproct broadly triangular, area between longitudinal ridge and lateral margin slightly concave, lateral margin curved up proximally; paraprocts lateroventrally concave, extending to or slightly beyond apex of epiproct; subgenital plate broadly triangular, broadly rounded apex slightly projecting; cerci elongate triangular, outer surface slightly concave.

Females: like males but larger; tegmina 5.5 to 6.3 times longer than greatest width.

Coloration and color variation.—Overall color brownish tan, varying from light tan to brown; tegmina and wings as previously described.

Measurements.—Measurements of selected structures of type specimens are shown in Table 2.

Paratypes.—(1 ♂ and 6 ♀ ♀) 3 ♀ ♀, St. Eustatius, near Oranjestad, 21-Feb-1949, A.C.J. Burgers; 1 ♂, 3 ♀ ♀, St. Eustatius, near Concordia, 21-Feb-1949, A.C.J. Burgers.

Depository.—Holotype and 4 ♀ paratypes deposited in Zoölogisch Museum Amsterdam, The Netherlands; 1 ♂ and 2 ♀ paratypes deposited in Academy of Natural Sciences, Philadelphia, PA, USA.

Habitat.—Specific habitat unknown. General habitat near Oranjestad and Concordia consists of dry scrub, sparse grass, and gravelly soil. The disruptive coloration of the species and its general morphology are typical of a geophile.

Acknowledgments

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References

- Hebard M. 1932. New species and records of Mexican Orthoptera. Transactions American Entomological Society 58: 201-371.
 Otte D. 1984. The North American Grasshoppers. Vol. II. Acrididae. Oedipodinae. Harvard University Press, Cambridge, Mass.
 Stoffers AL. 1956. Studies on the flora of Curacao and other Caribbean Islands. Vol. 1. The vegetation of the Netherlands Antilles. Foundation for Scientific Research in Surinam and the Netherlands Antilles, Utrecht.

Table 2. Measurements (averages and ranges in mm) of *L. eustatia* derived from the holotype and 8 paratypes. BL = body length (head to tip of abdomen, including ovipositor); HF = hind femur length; ID = interocular distance; PL = pronotum length; TL = tegmen length; TW = tegmen width (maximum).

Males (n = 2)		
BL	13.4	12.9 to 14.0
HF	9.2	9.0 to 9.5
ID	0.6	0.6 to 0.7
PL	3.4	3.1 to 3.6
TL	17.6	17.4 to 17.9
TW	2.8	2.8 to 2.8
Females (n = 7)		
BL	17.4	15.0 to 20.0
HF	10.9	10.2 to 11.9
ID	0.8	0.5 to 0.9
PL	4.2	3.9 to 5.0
TL	20.7	20.0 to 22.9
TW	3.5	3.0 to 3.9