

ORTHOPTERA OF THE YALE DOMINICAN EXPEDITION OF 1913.

By A. N. CAUDELL,

Custodian of Orthoptera, United States National Museum.

The Orthoptera collected by the Yale expedition to Dominica in 1913 comprises 57 specimens, representing 20 species. Two, a Phasmid and a Locustid, apparently new, are herein described. No more definite locality is given than that expressed by the following label, which is uniform for each specimen: "Dominica. June-July, H. W. Foote, Yale Exp. 1913."

By previous agreement types, uniques, and one-half of the remaining specimens are deposited in the United States National Museum.

Family BLATTIDAE.

PLECTOPTERA POEYI Saussure.

One female. This specimen is somewhat larger than ones in the United States National Museum from the Greater Antilles and the United States, the elytra measuring 6 mm. in length. Synonymy very surely exists among the species of this genus and a revision is desirable.

PANCHLORA HYALINA Stoll.

Four females.

EPILAMPRA CRIBROSA Burmeister.

One female. This unique specimen seems to fit the description of *cribrosa* better than that of any other described form which might be expected to occur in Dominica.

PYCNOSCELIS SURINAMENSIS Linnaeus.

Two immature specimens.

In addition to the above roaches there is in the collection a very young nymph of a Blattid which I am unable to determine.

Family PHASMIDAE.

PARAPRISOPUS ANTILLARUM, new species.

One female. Head densely covered with blunt tubercles, a broad transverse furrow between the eyes with a deep longitudinal sulcus above it and a couple of obscure slightly oblique longitudinal furrows,

one on each side of the deep median sulcus; occiput with a pair of tubercles very slightly larger than the others, one on each side of the median sulcus. Antennæ heavy and basally flattened, especially the basal segment, which is barely longer than broad. Pronotum quadrate and covered with large tubercles, four, situated two on each side of the median line on the anterior half, somewhat larger than the others; just anterior of the middle of the pronotum is a deep transverse furrow and near the anterior border is a second shorter one. There is a pair of shallow posteriorly divergent furrows on the posterior part of the pronotal disk. Mesothorax about twice as long as the anterior width, the width noticeably and gradually increasing from the front backwards; surface of mesonotum covered with large rounded tubercles, less elevated than those of the pronotum. Metanotum transverse, the surface covered with tubercles similar to those on the mesonotum. Median segment about twice as long as the metanotum and, like it, covered with bluntly rounded tubercles. Abdomen also covered with rounded tubercles, the segments very slightly longer than broad, the fourth, fifth, and sixth ones more distinctly so; operculum falling short of the end of the abdomen, barely exceeding the apex of the eighth segment, apically terminated by a short, blunt projection; cerci short and heavy.

Elytra present as small apically rounded lobes, broader than long and not reaching the posterior margin of the metanotum; wings immovable, fossil-like plates, their apical margin broadly rounded and coincident with that of the posterior margin of the metanotum.

Legs short, broad and heavy, all the femora broadly flattened and the margins, especially the lower margins of the middle and hind ones, undulately toothed or tuberculate; fore femora with the basal curve terminating two-thirds the distance from the base; middle femora but twice as long as broad, the hind ones about four times as long as broad. Tibiæ somewhat flattened and more or less distinctly undulate above. Tarsi heavy, and as long as the tibiæ, the anterior ones a little longer. All the legs are covered with tubercles similar to, but smaller than, those that cover the rest of the insect.

General color brownish with the tubercles mostly ash-colored, especially those on the head and pronotum; eyes dark brown; there is some black on the occiput and on the front part of the pronotum; some of the segments of the antennæ are darkened basally, giving it a ringed appearance; the tibiæ are variegated with blackish and the hind and middle femora are black on the inner face.

Measurements: Length, entire insect, 63 mm.; pronotum, 4; mesonotum, 8; metanotum, 2; fore femora, 7; middle femora, 5; hind femora, 8; width, head, 5; middle femora, 2.5.

Type.—Cat. No. 18242, U.S.N.M.

The type is unique.

Family ACRIDIDAE.

ORPHULELLA PUNCTATA DeGeer.

Nine males, twelve females, and one female nymph.

The above series of this common species exhibits much variation but no extremes not paralleled by specimens in a series of some 300 or more in the United States National Museum collection from Paraguay, named by Professor Bruner.

Family LOCUSTIDAE.

MICROCENTRUM DIVISUM Walker.

Two males. This species will very surely prove synonymous with some one of the later described species of Bruner.

NEOCONOCEPHALUS GUTTATUS Walker.

One female. The *Conocephalus exaltatus* of Walker seems very near this species and may indeed be the same.

CONOCEPHALUS PROPINQUUM Redtenbacher.

One adult male and a female nymph.

LEUROPHYLLUM LURIDUM Bruner.

Two males. These specimens are a little larger than the measurements given in the original description.

LICHENOCHRUS FULVICOSTA, new species.

Four females. General color greenish mottled with dark brown. Head with front retreating; fastigium of the vertex small and declivent, not nearly as broad as the basal segment of the antenna and apically pointed, the whole sunk deep between elevated antennal scrobae, the tip below that of the frontal fastigium, which is apically tuberculate; basal segment of antenna armed on the inner side with a long spur, more than half as long as the segment. Pronotum subsellate, without lateral carinae, the disk anteriorly roundly produced, posteriorly less so, the surface uneven but scarcely rugose, the transverse sulci very distinct; lateral lobes twice as long as high, the lower margin horizontal and with a shallow intramarginal sulcus. Abdomen plump, the ovipositor heavy, very little curved upwards, lower margin regularly curved, the upper margin straight in basal half or a little more and then tapering to the pointed apex in an almost straight line, the margins almost smooth, very slightly undulately toothed.

Legs long and stout; all the femora armed beneath on the cephalic margin only, the fore ones with four, the middle with five or six, and the hind ones with about a dozen stout spines, those of the hind femora especially much flattened; all geniculations briefly but acutely spined; all tibiae armed beneath on both margins with several short stout spines; fore tibiae unarmed above or with one or two small spines on the caudal margin in the apical half, none apical; middle tibiae armed above on the caudal margin only with 4 or 5

spines, none apical; hind tibiæ with both dorsal margins bearing long, basally flattened, backward curving spines, an apical one on the inner margin only. Tarsi broad and flat, especially the third segment.

Elytra slightly longer than the wings when folded, extending a fifth their length beyond the tips of the hind femora; costal and anal margins almost equally and uniformly curved, the tips narrowly rounded. Wings nearly as broad as long, uniformly and deeply fuliginous with even darker cross-veins except a broad grayish-brown strip along the costal margin and extending from the base to near the apex and as broad mesially as the pronotal width.

Face, like the entire head except the brown eyes, light yellowish brown, the mandibles blackish apically and the clypeus and labrum very slightly margined laterally with darker color; antennæ brown, with some lighter segments here and there. Abdomen generally yellowish brown, the sides of the last segment shining piceous, the ovipositor yellowish basally and black apically. Legs greenish brown mottled with black, the black mottling of the tibiæ sometimes gathered into the form of illy defined obscure bands. Elytra greenish with blackish mottlings; wings colored as described above.

Length: Pronotum, 10 mm.; fore femora, 18; middle femora, 17; hind femora, 37; elytra, 65; wings, 57; ovipositor, 37. Width: elytra, at the middle, 18; wings, at widest part, 46; ovipositor, at middle, 5.5.

Type.—Cat. No. 18252, paratype No. 18252*a* U.S.N.M.; paratypes 18252*b* and 18252*c* Yale University.

The paratypes are about as the types except that the general color is dark brownish, the green of the type specimen being mostly absent.

The armature of the anterior tibiæ seems very variable. In the type-specimen and paratype *a* one of these tibiæ, the left, is wholly unarmed above while the opposite one has one small spine at about the apical fourth. Paratype *b* has the left with one small spine and the right unarmed and paratype *c* has two spines on the left one and one on the right.

In general this species bears some superficial resemblance to the insect described and figured by Redtenbacher as *Bliastes striolatus* but in structure it is very different.

LUTOSA CUBENSIS Haan.

One female.

Family GRYLLIDAE.

CRYPTOPTILUM ANTILLARUM Redtenbacher.

Two females. The measurements of these two specimens are somewhat less than those given by Redtenbacher for the types from St. Vincent and the form is a little more slender than United States specimens in the National Museum collection determined by Rehn

and Hebard. But these Dominican specimens are badly rubbed and show some indications of immaturity.

ANUROGRYLLUS MUTICUS DeGeer.

One female. The lateral lobes of this brachypterous specimen are almost wholly blackish, showing variation toward the larger *A. fuscus* Caudell from Peru. This latter species may prove to be but of varietal distinctness. An interesting malformation of the male type of this Peruvian form is presented by the metatarsus of the left hind tarsus, which is unarmed above.

GRYLLODES RUFIPES Redtenbacher.

One adult female and three nymphs, one a nearly mature female and two smaller males.

The adult female, which has the end of the ovipositor broken off, agrees with the original description of the species except that the elytra are not separated above. This may indicate a different species, a variation or a difference due merely to a shriveling of the type specimen in drying. This can be definitely determined only when more material from the Lesser Antilles is available for study.

LARANDUS MARMORATUS Redtenbacher.

One female. This specimen, the first of its sex known I believe, seems to resemble the male, as described by Redtenbacher from St. Vincent, except that it is entirely apterous and measures as follows: Length, pronotum, 3 mm.; posterior femora, 11; ovipositor, 7; width, pronotum, 3.5; hind femur at widest part, 3.25.

The ovipositor is moderately curved upward and the tip is considerably broadened and spear-shaped, the valves almost unarmed. The cerci are almost one half longer than the ovipositor.

CYRTOXIPHA IMITATOR Saussure.

One male. This specimen seems specifically identical with the male recorded by Rehn from Cuba.

AMPHIACUSTA CARAIBEA Saussure.

One male.

OROCHARIS, species.

Two males, one female. In spite of the fact that these specimens are in fairly good condition I am unable to place them with certainty. They are probably what has been sometimes recorded from the Antilles as *Orocharis grylloides* or *O. sauleyi* but they differ from both these species as represented in the collection of the United States National Museum. *Orocharis*, like so many of our orthopterous genera, is in need of revision.