STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 170

FURTHER STUDIES ON CARIBBEAN TENEBRIONID BEETLES

by

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The study of some newly collected material from the West Indies may justify a fourth paper on Caribbean Tenebrionidae in these "*Studies*". Thanks to dr. P. WAGENAAR HUMMELINCK's collecting work, the Tenebrionid fauna of the Antilles and the adjacent South American mainland shores may be considered to be pretty well known – at least as far as the Melasomes are concerned. Thus zoogeographical conclusions – though not differing essentially from those published in 1962 – appear to have a rather solid basis. Unfortunately much less is known about planticolous Tenebrionids, which anyhow are relatively less interesting for zoogeographical purposes, than the geophilous ones.

We also had the privilege of consulting the collections of the I.N.R.A. at Guadeloupe (see MARCUZZI & D'AGUILAR 1971) which considerably increased our knowledge of the Tenebrionid fauna of that and neighbouring islands. Several specimens on hand at the Institute of Marine Biology, Mayagüez, proved extremely useful for obtaining a better knowledge of the Tenebrionid fauna of the old, sedimentary island of Puerto Rico. In a few single cases material from other sources (British Museum, Museum G. Frey and the private collection of the author) has been used.

It is a pleasure to mention here the following persons who have been so kind as to send me on loan other specimens for study: Dr. CHRISTINE M. F. VON HAYEK (British Museum, N.H.), the late H. KULZER (Museum G. Frey), Dr. J. D'AGUILAR (I.N.R.A., Versailles), Dr. H. FREUDE (Staatl. Museum, München), Dr. Z. KASZAB (Natural History Museum, Budapest).

The greater part of HUMMELINCK's specimens – indicated by his station numbers only – has been presented to the Rijksmuseum van Natuurlijke Historie at Leiden, including those specimens figured on the plates. The photographs were made with the expert assistance of Mr. T. VAN PINXTEREN, at the Zoological Laboratory of the State University, Utrecht.

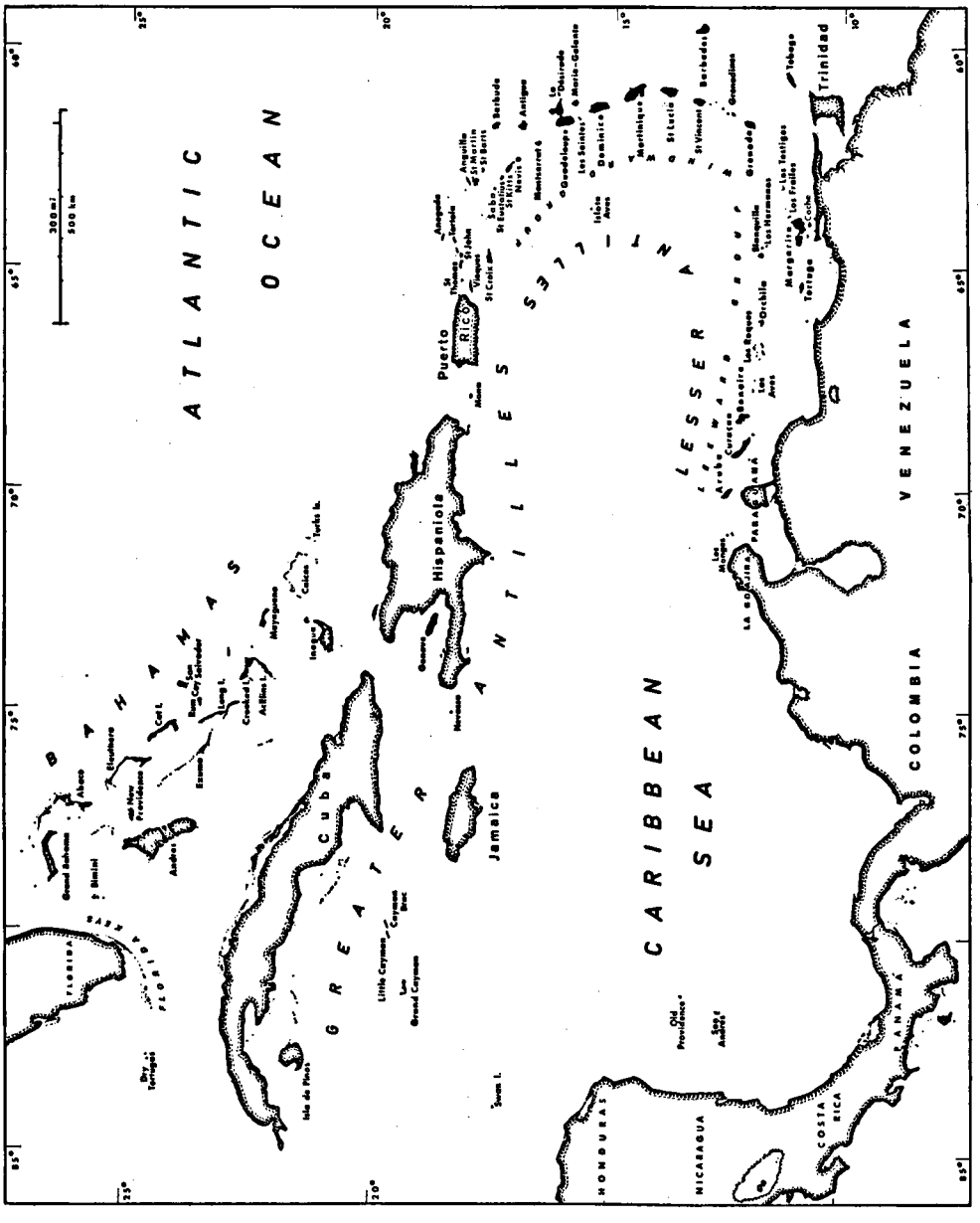

Fig. 1. Sketch-map of the CARIBBEAN REGION.

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TENTYRIINAE

Epitragus hummelincki Marcuzzi, 1961

MARCUZZI, 1961a, p. 23; 1961b, p. 322.

ARUBA: Bubali, at light, 12.XI.1963 (27 ex.); same, 15.XI.1963 (7 ex., Hummelinck).

La Goajira, Paraguaná, Aruba!

Ecnomosternum vermiculatum Gebien, 1928

GEBIEN, 1928, p. 104; MARCUZZI, 1954, p. 2, pl. VI 4; 1959, p. 81.

CURAÇAO: Carmabi, Piscadera Baai, at light, 22.XII.1963 (1 ex., Hummelinck).

Curaçao, Bonaire.

Tapinocomus subnudus Gebien, 1928

GEBIEN, 1928, p. 103; MARCUZZI, 1954, p. 4, pl. I 4; 1959, p. 82.

ARUBA: Eagle Petr. Comp., sink hole, Sta. 562, 11.VIII.1955 (4 ex.).
CURAÇAO: Seroe Rondó, near Hato airport, Sta. 947, 21.II.1970 (3 ex.); Fort Waakzaamheid, Otrabanda, Sta. 0133, 5.VIII.1973 (2 ex.).
BONAIRE: Ceru Pretu, Washington, Sta. 930, 18.III.1970 (1 ex.); Shishiribana, Washington, Sta. 938, 18.III.1970 (1 ex.); Rooi Tuna, Bolivia, Sta. 0125, 14.VIII.1973 (2 ex.); Landhuis Boven Bolivia, Sta. 0126, 14.VIII.1973 (1 ex.).

Aruba, Curaçao, Bonaire.

Stictoderia subseriata Gebien, 1928

GEBIEN, 1928, p. 101 & 102; MARCUZZI, 1954, p. 5, pl. I 6–7; 1959, p. 82, table 16.

CURAÇAO: Seroe Cabajé, Porto Marie, Sta. 225A, 21.XI.1963 (4 ex.); coast of Klein St. Joris, Sta. 906, 21.IX.1968 (1 ex.).
KLEIN BONAIRE: N shore, Sta. 806, 3.XII.1963 (9 ex.); near Salinja, Sta. 942, 16.III.1970 (1 ex.).
BONAIRE: Paya Wecua, Sta. 897, 28.X.1968 (14 ex.); Ceru Pretu, Washington, Sta. 930, 18.III.1970 (2 ex.); Shishiribana, Washington, Sta. 938, 18.III.1970

(6 ex.); Washington gate, Sta. 0123, 18.VIII.1973 (4 ex.); Rooi Tuna, Bolivia, Sta. 0125, 14.VIII.1973 (12 ex.); Landhuis Boven Bolivia, Sta. 0126, 14.VIII. 1973 (2 ex.); Rooi Caohori, Bolivia, Sta. 0127, 14.VIII.1973 (4 ex.).

Curaçao, Klein Curaçao, Klein Bonaire, Bonaire, Las Aves, Los Roques, Orchila, Los Hermanos.

The population from Klein Bonaire (Sta. 806, among some leaf decay of *Bontia daphnoides* on sandy beach) is extremely homogeneous. The animals are small, 5.5–6.5 mm, shiny dark brown, with the head reddish brown, legs, antennae and palpi ferrugineous red; punctation of promotum *never* confluent on the median line; punctures of elytrae perfectly ordered in regular longitudinal rows; hind angles of pronotum rather pronounced, the anterior ones much pronounced, subacute. In view of the great variability of the species (MARCUZZI 1954 and 1959) I do not consider it opportune to name these specimens from Klein Bonaire as belonging to a new subspecies. In the population from Orchila which was examined biometrically (MARCUZZI 1959, table 16), there was only one specimen out of 78 whose length was less than 6.5 mm.

Trientoma guadeloupensis Fleutiaux & Sallé, 1889

FLEUTIAUX & SALLÉ, 1889, p. 431; MARCUZZI, 1962, p. 25, pl. II 1–3; MARCUZZI & D'AGUILAR, 1971, p. 79, fig. 1.

ANTIGUA: Bats Cave, E of Nelson' Dockyard, Sta. 592, 13.VII.1955 (1 ex.).
BARBUDA: Sinkhole of Darby's Cave, Sta. 600, 10.VII.1955 (3 ex.).
ST. EUSTATIUS: Sugar Loaf Gut, Sta. 0119, 12.VII.1973 (1 ex.).

Les Saintes, Guadeloupe, Antigua, Barbuda, St. Kitts, St. Eustatius.

Trientoma kochi n. sp. Pl. Ib

Black, with exception of the antennae and the legs which are brownish ferrugineous; almost dull. Short, plump and convex, densely and coarsely punctured. Head not strongly trilobed in front, the three lobes of the clypeus practically similar in shape and situated more or less at the same level; dorsal surface coarsely and densely

punctured, with a tendency to form longitudinal wrinkles on each side. Pronotum strongly transverse, broadest just a little before the base, feebly rounded at the sides, narrowed towards the apex, so that the hind angles are well pronounced though obtuse; anterior angles much more pronounced and almost acute. Base strongly bisinuate. Punctuation very strong and dense, with some tendency to longitudinal or oblique wrinkling. An extremely thin longitudinal, not punctate medial line is observable. Elytrae very convex, with the sutura somewhat raised to form a sort of carina, which is a very characteristic feature of the new species. Punctuation very strong and dense, points of the rasp type, with an extremely vague trace of longitudinal striae (which in other species such as *T. convexipennis* or *T. ryticephala* are well developed). Elytrae posteriorly gradually narrowed, more or less as the prothorax anteriorly, so that a definite oval form of the body is obtained.

Length of type 5.5 mm.

CAYMAN BRAC: South East Bay, grassy sand flat, 30.V.1973 (1 ex., Hummelinck). - The type has been presented to the Leiden Museum.

Cayman Brac!

Trientoma puertoricensis n. sp.

Similar to *Trientoma guadeloupensis*, from which it is distinguishable by the base of pronotum which is not margined and for the absence of the longitudinal wrinkles at the sides of the forehead.

Black, with exception of the legs, antennae and palpi, which are ferrugineous brown, more or less dark; dull, only with a feeble iridescent lustre on upper surface. Very convex, and short (much more than in *T. guadeloupensis*). Head with a characteristic epistoma (according to CHAMPION trilobed, according to CASEY an epistoma situated between obliquely rounded sides of the front). Probably we may admit the presence of an epistoma divided into a clypeus (i.e. the median part) and two genae (the lateral parts) separated from the former by a genoclypeal suture, very distinct in the genus *Trientoma*. The median portion (or clypeus) is more prominent than

the genae and is triangular in shape; the three portions are much less separated one from another than in *T. guadeloupensis*. Eyes small, not expanded out of the lateral margins of the head. Upper surface provided with an exceedingly minute punctation (visible only at a middle magnification, × 25, and with a particular incidence of light). Antennae short but slender; XI article subconical, transverse; X subrectangular, very transverse; IX distinctly, and VIII only slightly transverse, from VII to V practically as wide as long, IV and III longer than wide. Mentum very large, transverse, subpentagonal, finely and closely punctured; submentum triangular, transverse, very conspicuous compared to other tribuses of Tenebrionidae; gula practically invisible, proably concealed in the prothorax. The postgenae are raised at both sides of the mentum and the postmentum in a sort of longitudinal ridge, which has the form of a horn (an extremely unusual feature in a Tenebrionid beetle). Submentum shining, almost unpunctate; postgenae shiny but closely and strongly punctured. Pronotum very transverse, convex, widest at the base, then gradually narrowed towards the apex but only slightly rounded, towards the anterior angles almost rectilineous. Very narrowly margined at the sides and on the lateral parts of the apex. Completely not margined posteriorly and on the median portion of the apex. Base deeply bisinuate (much more than in *T. guadeloupensis*); apex deeply emarginate (different from *T. guadeloupensis*), posterior angles almost rectangular and not prominent, anterior ones acute and very prominent. Reflected (ventral) part of pronotum impunctate, provided with some extremely feeble wrinkles at the sides; basisternum and sternellum stronger and coarser on the intercoxal process, which is lanceolate and slightly produced posteriorly (if examined in profile). Scutellum extremely reduced, almost invisible. Elytrae very convex, short, ovate, widest more or less at the half of their length with the sides very slightly rounded from the base to the half of the length and then gradually narrowed, with the apex rather rounded. Upper surface completely impunctate. Mesosternum very short, impunctate, characterized by two median confluent oblique ridges, which serve to receive the prosternal process. Metasternum rather long, impunctate, posteriorly truncate, medially provided with a narrow longitudinal grove. Urosterna impunctate,

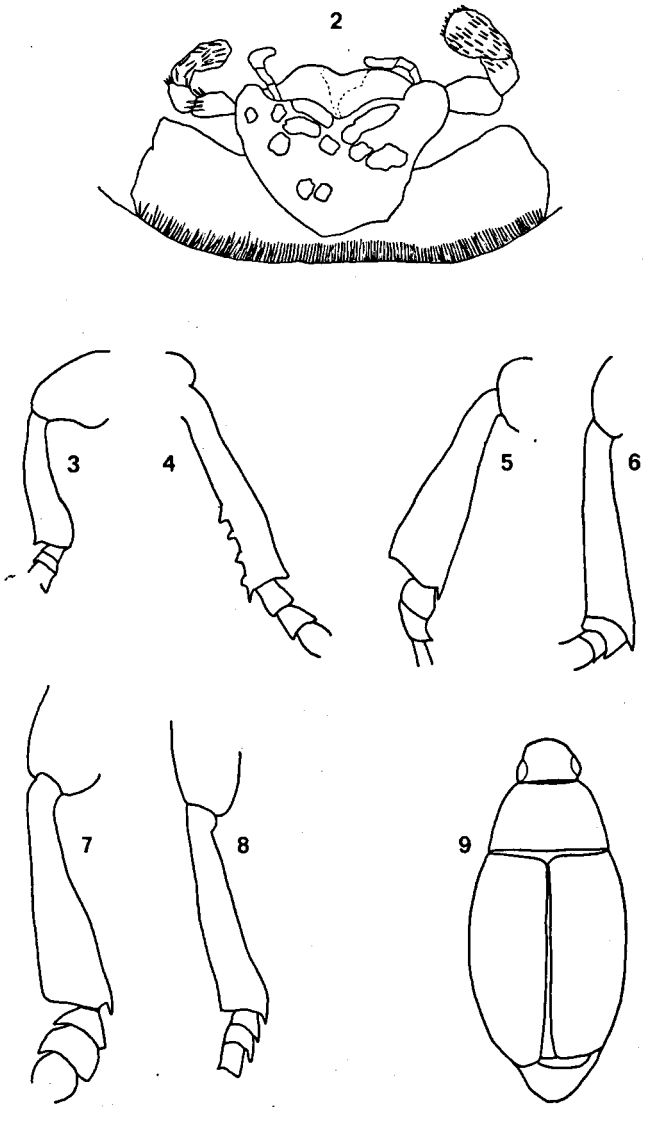

Fig. 2. *Branchus jamaicensis*: head.
Fig. 3–4. *Diastolinus inflatitibia* ♂: 3, anterior tibia; 4, middle tibia.
Fig. 5–6. *Diastolinus dentipes*: 5, anterior tibia, ♂; 6, anterior tibia, ♀.
Fig. 7–8. *Diastolinus diformis*: 7, anterior tibia, ♂; 8, anterior tibia, ♀.
Fig. 9. *Phaleria caymanensis*: body from above.

rather shining, the first one basally truncate. Legs very much the same as in *T. guadeloupensis*.

Length of type 6 mm, width nearly 3 mm.

PUERTO RICO: Cabo Rojo, Sta. 696, 18.IX.1963 (2 ex.); Isla Magueyes, La Parguera, Sta. 700, 10.IX.1963 (5 ex.); same, Sta. 032, 7.IX.1973 (3 ex.); Isla Cueva, La Parguera, Sta. 701A, 11.IX.1963 (8 ex.); Guánica, 10 km E, Sta. 704, 15.IX.1963 (2 ex.); all on limestone. Ensenada, 26.I.1927 (2 ex., S. T. Danforth); Caja de Muertos, 22–23.III.1935 (5 ex., Biaggi). – Typus in the collection of the author; paratypes deposited in the British Museum (N.H.), Ent. Mus. G. Frey (Tutzing), and Rijksmuseum van Natuurlijke Historie (Leiden).

Puerto Rico!

ASIDINAE

Rhypasma venezuelense Marcuzzi, 1953

MARCUZZI, 1953, p. 76; 1954, p. 7, pl. III 3–5.

BONAIRE: Escarpment of Fontein, Sta. 190Ba, 8.IX.1967 (1 ex.).

Venezuela mainland (Aragua, Dto. Fed.), Los Testigos, Los Frailes, Orchila, Bonaire.

TENEBRIONINAE

Branchus jamaicensis n. sp. Pl. Ic

Very similar to an *Opatrum* (e.g. *O. sabulosum lucifugum* or *O. verrucosum*), middle sized, dark brown with antennae, palpi and labrum brownish ferrugineous. Head very transverse, clypeus deeply emarginate, labrum very well visible from above and moderately incised. Puntuation of upper surface of head very coarse and relatively scarce, each point containing a very characteristic golden seta. Eyes rather sunken and partially concealed by the genae. Antennae very short, the last three segments definitely much broader than the other. Pronotum transverse, sides much arcuated, scarcely sinuated before the base; hind angles obtuse and not pronounced, anterior angles nearly rect and rather pronounced. Base scarcely bisinuated;

apex emarginate. Punctuation coarse and confluent, each point furnished with a golden, generally long, seta. Some impunctate shining areas, as well as a longitudinal medial, shining line, are present (as in *B. opatroides*). Sides of the elytrae parallel up to the hind two thirds, then gradually narrowed. Punctuation very irregular, consisting of great and small points, each bearing a golden seta. There is a very feeble trace of two longitudinal ribs, one on the middle of the elytron, another towards the sides; near the suture there is a slight tendency to the constitution of regular longitudinal rows of points. Mentum very small, labial palpi very unconspicuous and thin, maxillary palpi definitely broader (Fig. 2).

Length of type 10.5 mm.

JAMAICA: Hellshire Hills, near Louzy Bay (SW of Port Royal), cactus shrubs on limestone, Sta. 011, 8.V.1973 (1 ex.).

Jamaica!

Probably similar to *Branchus opatroides* Champion, from which the new species should be distinguished because of its scutellum, greater size, and elytrae without longitudinal carinae.

Diastolinus barbudensis barbudensis Marcuzzi, 1962

MARCUZZI, 1962, p. 29, pl. I 8.

BARBUDA: Goat Island, Sta. 601, 11.VII.1955 (1 ex.); N of Codrington Village, Sta. 602, 11.VII.1955 (7 ex.); NW of Codrington Village, Sta. 603, 5.VII.1955 (26 ex.); Low Pond, N of Codrington Village, Sta. 674a, 21.VII. 1967 (2 ex.); Village pool, Sta. 675a, 24.VII.1967 (20 ex.).

Barbuda, Nevis, Saba.

Diastolinus barbudensis antiguanus Marcuzzi, 1962

MARCUZZI, 1962, p. 30.

MONTSERRAT: Plymouth Agric. Experiment Gardens, Sta. 837, 20.VII.1967 (1 ex.).

ANTIGUA: Yepton Mill, Sta. 595A, 17.VII.1955 (1 ex.).
SABA: Road to The Bottom, Sta. 298C, 6.X.1963 (3 ex.).

Montserrat!, Antigua, Saba!

Diastolinus caymanensis n. sp. Pl. Id–f

Great (8–8.5 mm), black, rather dull, very broad and convex both in cranio-caudal and perlateral sense. Pronotum at the base as wide as the elytrae, at the sides only slightly incised, so that the hind angles are not much pronounced (much less than in *D. minor*). Sides of pronotum arcuated though not very regularly, at the base only slightly sinuated (if any), towards the apex brusquely narrowed, so that anterior angles well pronounced (almost as in *D. minor*). Punctuation very similar to that of *D. minor*, rather dense though inconspicuous; striae with a row of small, rather long points, almost contiguous. V and VI striae deeply incised at the base, VII and VIII united before the base; this seems to be a highly characteristic feature. Antennae rather short, similar to those of *D. minor*. In the male the anterior tibiae are brusquely dilated towards the hind two thirds, and furnished on the internal side with a small spur, not particularly pointed, more or less as in *D. minor*. Anterior tibiae of the female normally and gradually dilated from base towards apex.

CAYMAN BRAC: Near limestone bluff at Pollard Bay, SE point, Sta. 992, 31.V. 1973 (1 ex.); SE of Stake Bay Point, Sta. 001, Id, 1.VI.1973 (1 ex.); near shore N of Tibbett's Turn, Sta. 002, 29.V.1973 (1 ex.); near limestone bluff at Tibbett's Turn, Sta. 003, 29.V.1973 (2 ex.); South East Bay, sandy flat with grasses, *Coccoloba* and small shrubs, 30.V.1973 (1 ex., Hummelinck).

Cayman Brac!

Diastolinus chevrolati Marcuzzi, 1959

MARCUZZI, 1959, p. 83, pl. VI 5.

COLOMBIA: Barranquilla, III, 1934 (2 ex. Museum G. Frey).

Colombia, from Carthagena to Barranquilla.

Diastolinus clathratus (Fabricius, 1792)

MULSANT & REY, 1859, p. 138; MARCUZZI, 1962, p. 27, pl. I 1–3; MARCUZZI & D'AGUILAR, 1971, p. 80.

ST. CROIX: Fair Plain, Sta. 611, 15.VI.1955 (5 ex.); Upper Bethlehem, Sta. 612, 14.VI.1955 (1 ex.); Fredensborg, Sta. 615, 11.VI.1955 (3 ex.).

St. Martin, St. Croix.

Diastolinus clavatus Mulsant & Rey, 1859

MULSANT & REY, 1859, p. 155.

NEVIS: Jones River, Sta. 416, 28.VI.1949 (1 ex.).
ST. BARTS: Gustavia harbour, Sta. 450, 1.VI.1949 (1 ex.).
ST. MARTIN: Point Blanche Bay, Sta. 606, 5.VI.1955 (1 ex.); Philipsburg, 31.VII.1967 (1 ex., Hummelinck).
PUERTO RICO: Cerro Papayo, La Parguera, Sta. 698, 19.IX.1963 (3 ex.).
MONA: from Museum G. Frey (1 ex.).

Nevis, St. Barts, St. Martin, St. Thomas, Puerto Rico, Mona.

Diastolinus curtus curtus Mulsant & Rey, 1859

MULSANT & REY, 1859, p. 157; MARCUZZI, 1949, p. 335; 1954, p. 8, pl. II 6; 1959, p. 83.

ARUBA: Eagle Petr. Comp. sink hole, Sta. 562, 11.VIII.1955 (3 ex.); Seroe Wara-Wara, St. 896, 22.X.1967 (3 ex.).
CURAÇAO: Fort Waakzaamheid, Otrabanda, Sta. 0133, 5.VIII.1973 (1♂, 1♀).

Bonaire, Curaçao, Aruba, Venezuela.

Diastolinus dentipes n. sp. Pl. Ig–i

Middle size (7 mm), black, extremely dull, not very convex, especially in the cranio-caudal sense, practically narrow anteriorly as posteriorly, so that the shape is oval, the base of the pronotum being perfectly as wide as that of the elytrae (male) or scarcely narrower (female). Pronotum gradually narrowed towards the apex, base

much broader than apex, angles not pronounced and base not deeply incised at the sides. Punctuation very peculiar: pronotum practically impunctate, elytrae provided with small, long, rather contiguous points in the striae, interstriae perfectly impunctate, which makes the new species easily recognizable. Antennae short and thin. Anterior tibiae dilated at the hind two thirds in both sexes (which is a rather unique feature in Neotropical Pedinini) but distinctly more in the male, in which, at the beginning of the dilatation, a kind of spur is visible, missing in the female (Fig. 5–6).

GRAND CAYMAN: N of South Sound Road, 2 km W of Prospect Pt., Sta. 961, 20.V.1973 (1♂, 4♀♀).

Grand Cayman!

Diastolinus diformis n. sp. Pl. IIa–c

Very variable, sexually, dimorphous, middle size (6.5–7.5 mm), similar to *D. dentipes*. Black, dull, convexity rather variable, as a whole greater in the female particularly in perlateral sense; oval, much regular in the female. Pronotum very transversal, sides not regularly arcuated, rather parallel at least in one part of the length, bent both towards the base and towards the apex. Hind angles perfectly rect and obtuse, anterior angles pronounced though almost rect. In the female the sides are gradually and regularly narrowed from base to apex, which is definitely narrower than the base. Both anterior and hind angles rather pronounced, at the base definitely more than in the male; female less variable than male. Sides of elytrae rather gradually narrowed beyond the two thirds; here again in the male there is a greater variability. Punctuation only slightly more evident than in *D. dentipes*, that of pronotum visible already at low magnification (20 ×) which is not the case for *D. dentipes*. Punctuation of the elytral striae definitely stronger than in *D. dentipes*. Antennae more or less as in the latter. Anterior tibiae dilated at the hind two thirds in the male, gradually dilated in the female. In the male at the beginning of the dilatation there is not a spur as in *D. dentipes* (Fig. 7–8).

GRAND CAYMAN: Limestone hill W of Botabano beach, Sta. 953, 18.V.1973 (1♂); SE of Timms Point, West Bay, Sta. 957, 19.V.1973 (1♂); Walkers Road, SE of Jackson Pt, Sta. 959, 20.V.1973 (4♂♂, 1♀); South Sound beach, Sta. 960, 20.V.1973 (1♀); limestone bluff near North East Point, Sta. 975, 25.V.1973 (1♂); near pools at Water Ground, Sta. 979, 18.V.1973 (1♀); 1 km SW of Georgetown, decay of Cocos near shore, 19.V.1973 (2♂♂).

Grand Cayman!

Diastolinus elongatus n. sp.

Large size, dull, black with exception of tarsi and palpi, brownish-black, and the last 3 articles of antennae, testaceous. Narrow, rather flattened (more especially the pronotum). Head widely transverse, anteriorly deeply and regularly emarginate, eyes small, not extended out of the lateral margins of the head, which are perfectly rounded. Upper surface rather flattened, slightly depressed transversally between the clypeus and the forehead, which are separated only laterally by a short and feeble suture. Punctuation rather strong and close on the anterior half, very sparse and fine on the hind one. Mentum very small, sub-cordiform, separated from the gula by a sort of transverse ridge, at the sides prolonged in two tubercles with the shape of horns, erect and very characteristic. Antennae of normal length and width; XI article subconical, longer than wide, X very transverse, rectangular, IX trapezoidal, scarcely transverse, VIII–V longer than wide, and gradually more slender; IV nearly twice as long as wide, III thrice, II as long as wide. Pronotum rather flattened, transverse, with the maximum width at the middle; lateral margins very variable, from slightly and regularly rounded from base to apex to rectilineous in the hind $\frac{3}{4}$ and then slightly and regularly rounded towards the anterior angles. Posterior angles subacute and strongly prolonged backwards, anterior angles subrectangular, not very prominent, so that posterior margin strongly bisinuate, slightly rounded in the middle, with two deep transverse impressions at the sides, anterior margin slightly emarginate, in the middle almost rectilineous. Pronotum widely and distinctly margined at the sides and on the lateral parts of the base, only feebly margined anteriorly and on the median part of the base. Punctua-

tion very small, from extremely feeble and sparse all throughout the surface, scarcely visible at a small enlargment (25 ×), to completely absent, so that the new species is easily distinguishable from the *sallei-puncticollis* group, to which it offers a vague resemblance. Prosternum rather shining, distinctly punctured, at the sides wrinkled, in the middle (intercoxal process) with a double punctuation constituted by small punctures mixed to some very big ones. The process is triangular in shape, gradually narrowed posteriorly, if examined in profile slightly raised at the apex and then abruptly truncate. Scutellum very small, extraordinarily transverse. Elytrae elongate, subparallel, rather flattened though much less than the pronotum, with the maximum width more or less at half length, strongly narrowed towards the humeri as it occurs in no other species of *Diastolinus*, recalling though very vaguely the genus *Sellio*, gradually and regularly narrowed in the posterior half. Punctato-striatae, the punctures gradually stronger towards the sides, the interstriae from almost flattened medially to very convex, almost costiform towards the sides. The punctuation is distinctly finer towards the hind extremity; the interstriae are absolutely unpunctate. Meso- and metasternum short, shining, scarcely and finely punctured; the former very short, between the coxae provided with two kind of strong oblique ridges which form a V apt to receive the prosternal process; metasternum short, in the middle flattened and rather cordiform, with the widest part backwards, where it offers a kind of incision apt to receive the anterior process of the I urosternum. Urosterna shining, almost unpunctate, with exception of the last one, furnished with longitudinal wrinkles scattered throughout all the surface. Legs rather short and strong, shining, provided with a punctuation almost asperate; anterior tibiae (of male) regularly dilated from the base; femurs strong, the anterior ones very strong and bent forwards; the punctuation is very strong, especially on the ventral surface, the hind surface of each femur is deeply excavated in order to receive the tibia in resting conditions. Legs practically glabrous, only the distal extremity of the tibiae furnished with very characteristic short golden setae. Anterior tarsi of the male rather strongly dilated.

Length 10 mm; width 3.75 mm.

PUERTO RICO: Isla Magueyes, La Parguera, Sta. 700, 10.IX.1963 (3 ex.); Isla Cueba, La Parguera, Sta. 701, 11.IX.1963 (3 ex.); Ensenada, hill near former lagoon, Sta. 702 (2 ex.); Caja de Muertos, 22–23.III.1935 (1 ex., coll, R. Bohilla, Mayagüez). – Typus in the collection of the author; paratypi in the British Museum (N.H.), Ent. Museum P. Frey (Tutzing), and Rijksmuseum van Nat. Historie (Leiden).

Puerto Rico!

Diastolinus fairmairei Marcuzzi, 1949

MARCUZZI, 1949, p. 336; 1950, p. 106; 1954, p. 9, pl. II 3.

VENEZUELA MAINLAND: S. Sebastian, Aragua (8 ex. Mus. G. Frey); Puerto de Hierro, Sucre (1 ex. Mus. G. Frey).
MARGARITA: Punta Mangle beach, Sta. 800, 10.I.1964 (3 ex.).

Venezuelan mainland, Margarita, Los Frailes, Los Testigos.

Diastolinus inflatitibia n. sp. Pl. IId

Very small (5 mm) rather shining, long, with parallel sides as in no species of *Diastolinus* so far known, dark brown, with anterior part of the head, antennae and legs ferrugineous. Head with a regular, small, scarce punctuation, antennae rather long, but thin. Pronotum very transversal, trapezoidal, with the sides not very arcuate but narrowed from the base towards the apex, so that the latter is distinctly narrower than the base. Hind angles perfectly right, anterior angles pronounced though not acute. Surface of the pronotum practically inpunctate (20 ×). Elytral striae with evident rows of points rather rounded and almost contiguous, interstriae practically inpunctate (20 ×). Anterior tibiae in the male brusquely dilated at the middle, so that a basal, thin portion is present, and another, distally, strongly dilated; the internal margin of the latter is furnished with some very peculiar spinulae (Fig. 3) which appear to be a very unusual feature within Neotropical Pedinini. Middle and hind tibiae long, slightly bent before the apex, and furnished on the interior margin with some characteristic spinulae (Fig. 4).

LITTLE CAYMAN: West End Point near Light Tower, Sta. 985, 5.VI.1973, beach vegetation on sandy limestone debris (1 ex., holotypus).
JAMAICA: Arawak Museum near Port of Spain, Sta. 012, 11.V.1973, shrubs on clayish soil with shell debris (1 ex.).

Little Cayman!, Jamaica!

It is not impossible that the new species belongs to a new genus.

The specimen from Jamaica differs from the holotype from Little Cayman described above by having an evident punctuation on the head and the pronotum; it could belong to a different geographical race, probably older than the nominal form. However, the shape of the legs is perfectly the same, and I do not consider it opportune to describe it as a different race.

Diastolinus margaritensis Marcuzzi, 1949

MARCUZZI, 1949, p. 339; 1950, p. 107; 1954, p. 9, pl. II 2.

VENEZUELAN MAINLAND: Puerto de Hierro, Sucre (1 ex. Mus. G. Frey).

Venezuelan mainland (Sucre), Margarita.

Diastolinus minor n. sp. Pl. IIe–f

Middle size (6.5♂–8.0♀ mm), black, slightly shining, with a remarkable sexual dimorphism not common within the genus *Diastolinus*. The male smaller and narrower, a little less convex, the female bigger, broader and distinctly more convex. Pronotum very transversal (in the male more than in the female), gradually and regularly arcuated at the sides, the apex much narrower than the base. The latter is incised deeply at both sides, so that the posterior angles are very pronounced and acute (though not pointed), anterior angles very pronounced, so that the head is partly concealed by the prothorax. Punctuation similar to that of *D. caymanensis*, rather dense though inconspicuous. Elytral striae similar to those of *D. caymanensis*, but at the base V and VI not so incised and VII and VIII do

not join at the base as they do in *D. caymanensis* (only in the females there is a slight tendency to unite). Antennae short and rather thin. Anterior tibiae of the male dilated at the hind two thirds, and furnished with a spur more or less as in *D. caymanensis*. Tibiae of the female gradually dilated from base to apex.

LITTLE CAYMAN: Limestone bluff at Mary's Bay, Sta. 986, 5.VI.1973 (1 ex.); limestone bluff at Callabash Spot, Sta. 987, NE pt, 5.VI.1973 (9 ex.); E of Rosetta Flats, Sta. 988, 4.VI.1973 (1 ex.); Owen Island, Sta. 990, 7.VI.1973 (1 ex.).

Little Cayman!

Diastolinus minor should be interpreted as very recent, originated from the same stock which gave rise to *D. caymanensis*. The speciation would be of course of the geographical type, and should be dated back to the separation of Cayman Brac from Little Cayman.

Diastolinus mulsanti Marcuzzi, 1971
(= *hummelincki* Marcuzzi, 1962, *non* Marcuzzi, 1949)

MARCUZZI, 1962, p. 28, pl. III 4–6 (sub *D. hummelincki*, name preoccupied by *D. hummelincki* Marcuzzi, 1949); MARCUZZI, 1971 ex MARCUZZI & D'AGUILAR, 1971, p. 79.

ST. JOHN: Chocolate Hole, Sta. 618, 19.VI.1955 (1 ex.).
ST. THOMAS: Magens Bay, Sta. 623, 20.VI.1955 (1 ex.).

Martinique?, St. John, St. Thomas.

Diastolinus perforatus (Sahlberg, 1823)

MULSANT & REY, 1859, p. 141; MARCUZZI, 1962, p. 27, pl. I 4–7; MARCUZZI & D'AGUILAR, 1971, p. 80.

LES SAINTES: Terre-de-Haut, Fortress, Sta. 757, 6.II.1964 (6 ex.).
LA DÉSIRADE: Grande Anse, near sandy beach, Sta. 731, 25.I.1964 (1 ex.); same, shrubs, Sta. 732, 23.I.1964 (29 ex.); Pointe Doublé, scanty xerophytic shrubs, Sta. 736 (53 ex.); all on limestone.
ST. BARTS: Garden in Gustavia, Sta. 449, 5.VI.1949 (1 ex.); between Gustavia and Anse des Cayes, Sta. 0107, 18.VII.1973 (2 ex.).
TINTAMARRE: Bluff of Baie Blanche, Sta. 455a, 15.VII.1973 (3 ex.).

ST. MARTIN: Point Blanche, Sta. 458a, 2.VIII.1967 (9 ex.); 458b, 25.VI.1973 (2 ex.); 458Aa, 25.VI.1973 (6 ex.); Old Battery, Sta. 461a, 2.VI.1955 (6 ex.); Point Blanche Bay, Sta. 606a, 26.IX.1963 (11 ex.); Fort Willem, Sta. 709, 2.X.1963 (4 ex.); Point Blanche Bay, Sta. 829, 29.VII.1967 (16 ex.); Belle Hill, N Grand' Case, Sta. 057A, 22.VI.1973 (10 ex.); First Stick Hill, Sta. 058, 20.VII. 1973 (2 ex.); Cocksies, Sta. 059, 20.VII.1973 (3 ex.); La Croisade, Sta. 063, 22.VI.1973 (1 ex.); Mildrum, Cul-de-Sac, Sta. 066, 24.VI.1973 (10 ex.); same, Sta. 067, 24.VI.1973 (10 ex.); W of Oysterpond, Sta. 068, 20.VII.1973 (2 ex.); Backy Hill, Prince's Quarter, Sta. 070, 19.VI.1973 (17 ex.); Guana Ridge, Sta. 072, 22.VII.1973 (1 ex.); Hope Hill, Sta. 073, 21.VI.1973 (3 ex.); N Point Blanche Bay, Sta. 074, 2.V.1973 (14 ex.); Point Blanche, Sta. 076, 25.VI.1973 (2 ex.); Cupecoy Bay Hill, Sta. 081, 23.VI.1973 (2 ex.); Cupecoy Bay, Sta. 082, 26.VI.1973 (2 ex.); Grand Etang, Sta. 085, 26.VI.1973 (1 ex.); Morne aux Cabris, Sta. 089, 23.VI.1973 (21 ex.); Colline Nettlé, Sta. 092, 29.VI.1963 (2 ex.). ANGUILLA: Crocus Hill, N, Sta. 046, 30.VI.1973 (1 ex.); Crocus Hill, S, Sta. 047, 1.VII.1973 (13 ex.); Sandy Ground, Sta. 054, 2.VII.1973 (1 ex.).

Les Saintes, La Désirade, Guadeloupe, St. Barts, Fourche, Tintamarrel, St. Martin, Anguilla, St. Croix.

Diastolinus puertoricensis n. sp.

Very similar to *Diastolinus cubanus*, from which it is easily distinguishable by the total absence of elytral striae and a more slender form.

Black, almost completely dull, only the last 3 articles of antennae ferugineous dark, in some specimens palpi ferrugineous brown. Head semicircular, transverse, with a small incision in the middle of anterior margin, eyes very small and not expanded out of the lateral margin of head, with no distinction between clypeus and forehead; punctuation exceedingly minute, scarcely visible with a low magnification (25 ×) and only with a particular incidence of light. Antennae short but rather slender, somewhat beaded, XI article subconical, longer than wide, X and IX slightly transverse, VIII–V rather circular, more or less as wide as long, IV and III distinctly longer than wide. Mentum trapezoidal, very small, slightly concave, closely and finely punctured, dull; reflected parts of epicranium (postgenae) very developed so to conceal the submentum, covered with very characteristic granules, close and rather conspicuous. The gula – which is relatively small – is triangular and shining, though closely punctured. Pronotum very convex, very transverse, trape-

zoidal, widest practically at the base, from where the sides are very slightly and regularly rounded towards the apex, so that posterior angles slightly acute but not pointed, anterior angles obtuse and rather prominent; hind margin feebly bisinuate, with the median part slightly convex backwards, anterior margin regularly but not deeply emarginate. Pronotum narrowly margined at the sides and on the lateral parts of the base, whereas the apex and the median part of the base are not margined. Upper surface impunctate (25 ×). Scutellum small, very transverse, triangular. Elytrae very convex, elongate, widest practically at the base, with sides parallel in the two anterior thirds of their length, and then regularly narrowed up to the extremity. There is no trace of striae or of punctuation. Prosternum very slightly shining, finely and sparsely punctured, at the sides wrinkled, intercoxal process shortly lanceolate, not raised if examined from profile, posteriorly abruptly truncate. Mesosternum short, scarcely punctured, deeply excavate in the middle, where the punctuation is asperate and tends to confluence. There is a median grove, slightly broadened posteriorly; hind margin practically truncate, with no incision to receive the anterior process of I urosternum, which in this species is broad and truncate. Urosterna sparsely punctured on the middle, the punctuation rather fine and asperate, only on the last urosternum close and strong, and not asperate. Towards the sides the punctuation is substituted by shallow longitudinal wrinkles. Leg short and stout, tibiae broadened from base towards apex, a little more evidently in the male, where the middle tibiae are bent and the anterior ones very broadened. Anterior tarsi of the male extremely dilated as in no other species of this genus. Ventral surface of legs covered with a very characteristic golden recumbent pubescence.

Length of typus 5.5 mm, width 2.75 mm.

PUERTO RICO: Cabo Rojo, Sta. 696, 18.IX.1963 (2 ex.); Isla Magueyes, La Parguera, Sta. 700, 10.IX.1963; Isla Cueba, La Parguera, Sta. 701A, 11.IX. 1963 (3 ex.); Magueyes, at light, 16.IX.1963 (1 ex., Hummelinck); Guánica, II.1927 (1 ex., S. T. Danforth, Mayagüez). – Type in collection of author; paratypes in British Museum (N.H.), Ent. Museum G. Frey (Tutzing) and Rijksmuseum van Natuurlijke Historie (Leiden).

Puerto Rico!

Diastolinus puncticollis Mulsant & Rey, 1859

MULSANT & REY, 1859, p. 147; MARCUZZI, 1962, p. 26, pl. III 7–9 (variability).

MARIE-GALANTE: Ravine du Vieux Fort, Vangout, Sta. 747, 31.I.1964 (1 ex.).
BARBUDA: Highlands, sinkhole of Dark Cave, Sta. 599, 6.VII.1955 (1 ex.).
SABA: Road to The Bottom, Sta. 298C, 6.X.1963 (3 ex.); The Level, Windwardside, Sta. 442A, 4.X.1963 (29 ex.); Tom's Gut, S of Rendez-Vous, 7.X.1963 (2 ex.).
PUERTO RICO: E of Guánica, Sta. 704, 15.IX.1963 (2 ex.).

Marie-Galante!, Barbuda!, Nevis, St.Kitts, St.Eustatius, Saba, Anguilla, Puerto Rico!, Hispaniola.

Diastolinus sallei Mulsant & Rey, 1859

MULSANT & REY, 1859, p. 144; MARCUZZI, 1962, p. 25, pl. III 1–3.

LA DÉSIRADE: N of Grande Anse, Sta. 733, 26.I.1964 (2 ex.); Pointe Doublé, Sta. 736, 24.I.1964 (5 ex.).
ANTIGUA: Near Bats Cave at Nelson's Dockyard, Sta. 591, 13.VII.1955 (2 ex.).
BARBUDA: Martello Tower, Sta. 596, 8.VII.1955 (1 ex.); Sinkhole of Darby's Cave, Sta. 600, 10.VII.1955 (1 ex.); Pool at Codrington Village, Sta. 675a, 24.VII.1967 (1 ex.).
SABA: The Level, Windwardside, Sta. 442A, 4.X.1963 (1 ex.).

Dominica, La Désirade!, Antigua, Barbuda, Saba!, Hispaniola.

Opatrinus gemellatus (Olivier, 1795)

MULSANT & REY, 1853, p. 299; MARCUZZI, 1949, p. 341; 1954, p. 10, p. VI 3; 1962, p. 31; MARCUZZI & D'AGUILAR, 1971, p. 80, fig. 2.

SURINAME: Purmerend, near Surinam River N of Paramaribo, Sta. 827, 1.III. 1964 (1 ex.).
MARGARITA: El Piache, Sta. 798, 13.I.1964 (3 ex.).
TRINIDAD: Chacachacare island, Sta. 580, 11.I.1955 (2 ex.); Perseverance Estate, ESE of Point Fortin, Sta. 791, 16.I.1964 (1 ex.).
TOBAGO: Store Bay, W point, Sta. 581, 17.I.1955 (1 ex.).
BARBADOS: Cherry Tree Hill, Sta. 772, 17.II.1964 (1 ex.); Porter's Wood of mahogany, Holetown, Sta. 778, 16.II.1964 (1 ex.); Porter's Gully, Holetown, Sta. 777, 15.II.1964 (5 ex.); Rock Hall, St. Peter, Sta. 780, 12.VI.1962 (2 ex. L. J. van der Steen), Drax Hall, St. George, Sta. 865, 7.VII.1967 (2 ex.); escarpment S of Codrington College, 18.II.1964 (1 ex.).

ST. VINCENT: Calliaque Bay, Johnson Pt, ruins, Sta. 857, 10.VII.1967 (7 ex.).
ST. LUCIA: Gros Islet, bananas at Mongrioud, Sta. 853, 11.VII.1967 (1 ex.).
DOMINICA: Botanical Gardens at Roseau, Sta. 844, 14.VII.1967 (1 ex.).
LES SAINTES: Terre-de-Haut, Sta. 758, 6.II.1964 (2 ex.); near pool, 6.II.1963 (2 ex. Hummelinck).
MARIE-GALANTE: Ravine du Vieux Fort, Vangout, Sta. 747, 31.I.1964 (4 ex.).
ST. KITTS: VII.1935 (1 ex. Standorth, Mayagüez).
ST. CROIX: Upper Bethlehem, Sta. 612, 14.VI.1955 (2 ex.); Fredensborg Hill, Sta. 615, 11.VI.1955 (1 ex.); Puddle at Canaän, Sta. 685, 10.VI.1955 (3 ex.).

Guianas, Venezuela, Colombia, Margarita!, Trinidad, Tobago, Grenada, Bequia, Moustique, Union, Barbados, St. Vincent, St. Lucia!, Martinique, Dominica!, Les Saintes!, Marie-Galante!, Guadeloupe, St. Kitts, St. Croix.

The specimens from the northern part of the West Indies are characterized by a punctuation of the urosterna which is much finer than that of the animals from the southern shores of the Caribbean. Furthermore, the surface of the urosterna shows some characteristic longitudinal wrinkles which are not present (or in a lesser degree) in the southern populations. It may be possible that in the West Indies a slight geographical differentiation within *O. gemellatus* plays a role.

Opatrinus puertoricensis n. sp. Pl. Ia

Large, shining, black, winged. Head semicircular, anteriorly very regularly emarginate; genoclypeal suture well visible, clypeus scarcely separated from the forehead, genae somewhat raised at the sides, eyes relatively large (interocular space more or less one and a half times as broad as the diameter of an eye) slightly expanded out of the lateral margin of the head. Labrum well developed and strongly sclerotized. Upper surface shining, closely and rather strongly punctured, the punctuation a bit stronger towards the vertex. Eyes from above narrowed towards the sides, each of them practically divided in two portions (one dorsal and another ventral) by the genae and postgenae. Mentum very small, so that all the mouth parts are visible, postgenae very developed, without any trace of midventral suture, gula reduced to a small shining triangle near the posterior margin of the head. Postgenae closely and coarsely punctured, gula impunctate. Antennae of normal width and length; XI article ovoidal,

scarcely longer than wide, X–VIII perfectly circular, VII–III gradually longer and slender, II (or pedicel) very small, nearly as long as one third of III article. XI–VIII articles covered with a dense short recumbent yellow pubescence, which confers a very peculiar aspect to these articles. Pronotum transverse, widest at the middle; sides slightly rounded, almost straight towards the base, slightly sinuate before the apex, so that posterior angles acute and prominent backwards, anterior angles rectangular, blunt though well prominent. Base strongly bisinuate, apex emarginate and only vaguely bisinuate, with the median part of the edge somewhat raised, very shining and unpunctate. Pronotum strongly margined at the sides, the margins prolonging on the lateral parts of the apex - where they are much thinner - and on the lateral part of the base, where they are scarcely visible. Upper surface very shining; punctuation very regular, rather small and not very close, somewhat coarser towards the sides and the base. Reflected (ventral) part of pronotum with an extremely coarse punctuation, which laterally converges to form some oblique wrinkles; basisternum and sternellum shining, very minutely and sparsely punctate, the intercoxal process obovate, with a closer and stronger punctuation, if examined in profile slightly raised posteriorly where it is abruptly truncate. Scutellum triangular, dull, with a close and strong punctuation. Elytrae elongate, with the sides almost parallel up to $\frac{3}{4}$ of their length and then regularly narrowed towards the posterior extremity, relatively pointed more or less as in *O. validus*. Shining, punctatostriate, the striae somewhat deeper towards the internal edge; punctures regular, coarser towards the sides. All the interspaces show a close and minute punctuation. Interstriae relatively flattened, with exception for the VIII, which is definitely convex. Mesepimeron and mesepisternum closely punctured, mesobasisternum opaque, closely and minutely punctured, characterized by a long median carina, mesosternellum provided with two oblique ridges convergent posteriorly. Metepimeron and metepisternum coarsely punctured, metabasisternum shining, only very scarcely and finely punctured; only the anterior lobe, which is ovate, not pointed, is more strongly punctured. Urosterna shining, sparsely and minutely punctured, the punctures tend to converge to form very small longitudinal wrin-

kles; only the last urosternum shows a stronger and closer punctuation with no tendency to form wrinkles. Legs relatively slender, more or less as in *O. validus*; ventral surface rather closely and strongly punctured.

Length of type from Puerto Rico 11.5 mm, width 5 mm.

PUERTO RICO: Isla Magueyes, La Parguera, Sta. 700, 10.IX.1963 (2 ex.); Ensenada, near former Laguna, Sta. 702, 15.IX.1963 (1 ex.).
JAMAICA: Long Mountain at Mona, near Kingston, Sta. 016, 6.V.1973 (10 ex.); Campus University of the West Indies at Mona, Sta. 017, 6.V.1973 (1 ex.). – Typus in the collection of the author.

Puerto Rico!, Jamaica!

The specimens from Jamaica are different from those of Puerto Rico because of smaller size, 8.5–10 mm in length, lesser shine of upper surface, and stronger punctuation. They possibly may belong to a new subspecies.

Ctesicles insularis Champion, 1896

CHAMPION, 1896, p. 7.

MARTINIQUE: Îlet Hardy, among little plant debris on sandy limestone near W shore, Sta. 765, 11.II.1964 (2 ex.); near nests of *Puffinus* in exposed limestone escarpment, Sta. 766, 11.II.1964 (1 ex.).

Martinique, St. Vincent.

Blapstinus brunnipes Marcuzzi, 1951

MARCUZZI, 1951, p. 61, pl. II 5.

VENEZUELAN MAINLAND: Chaguaramas, Guárico, 1960 (1 ex., Bordon, Museum P. Frey); Maracay, Aragua, 1958 (1 ex., Bordon, Mus. Frey); Maracay (plur., Vogl, Museum Munich); Venezuela (1 ex., Folsche, Mus. Munich).
COLOMBIA: Colombia (1 ex., *B. striatus*?, Mus. Munich).
MARGARITA: El Guince, N of Punta Carnero, Sta. 799, 10.I.1964 (1 ex.).

Colombia to French Guiana, Margarita!

Blapstinus buqueti Champion, 1885

CHAMPION, 1885, p. 128; FAIRMAIRE, 1892, p. 82 (*piliferus*); MARCUZZI, 1949, p. 345 (*piliferus*); 1951, p. 75; 1954, p. 12, pl. V 1–3; 1959, p. 84; 1962, p. 36.

VENEZUELAN MAINLAND: Macuto, D.F., Sta. 826, 9.I.1964 (1 ex.); Barquisimeto, Lara, I. 1950 (1 ex., Marcuzzi); Cariaco, 1960 (1 ex., Bordon, Mus. G. Frey); S. Fernando de Apure, 1960 (2 ex., Bordon, Mus. G. Frey); Calabozo, Guárico, 1961 (2 ex., Bordon, Mus. G. Frey); Chaguaramas, Guárico, 1960 (2 ex., Bordon, Mus. G. Frey); Maracay, 1958 (1 ex., Bordon, Mus. G. Frey); Maracay (4 ex., Vogl. Mus. Munich); Barinas (1 ex., Mus. Munich, *piliferus*); Venezuela (1 ex., Folsche, Mus. Munich).
COLOMBIA: Colombia (7 ex., Mus. Munich, *puberulus*).
ARUBA: Eagle Petr. Comp., Druif, at light, V.1955 (1 ex., Hummelinck).
CURAÇAO: S of San Pedro, Sta. 911, 7.XI.1968 (1 ex.); Hato, 1949/50, (1 ex., A. D. Ringma).
TOBAGO: S of Airport, Sta. 582, 17.I.1955 (1 ex.).

Central America, Colombia to French Guiana, Aruba, Curaçao, Bonaire, Margarita, Tobago.

Blapstinus cubanus Marcuzzi, 1961 Pl. IIIa–b

MARCUZZI, 1961, p. 33; pl. IV 4–5; 1963, p. 130.

GRAND CAYMAN: Limestone hill W of Botabano, Sta. 953, 18.V.1973 (1 ex.); Water Ground, Sta. 954, 18.V.1973 (1 ex.); West Bay Light Tower, Sta. 955, 19.V.1973 (1 ex.); Walkers Road, Sta. 959, 20.V.1973 (2 ex.); South of Airstrip, Sta. 962, 21.V.1973 (1 ex.); Savannah Village, Sta. 967, 23.V.1973 (2 ex.).

Cuba, Gran Cayman!, Grand Turk (*cubanus grand turki* Marcuzzi).

Blapstinus curassavicus Marcuzzi, 1954

MARCUZZI, 1954, p. 14, pl. IV 1–2; 1959, p. 85.

CURAÇAO: Seroe Cabajé, Porto Marie, Sta. 225A, 21.XI.1963 (12 ex.); Seroe Stela, St. Jorisbaai, Sta. 559, 20.II.1955 (1 ex.); Spaanse Put near Playa Frankie, Sta. 560, 27.II.1955 (15 ex.); Seroe Patía, Fuik, Sta. 810, 27.X.1963 (1 ex.); Seroe Blanco, Fuik, Sta. 812, 22.XI.1963 (1 ex.); Piscadera, N part Carmabi area, Sta. 816, 30.XII.1963 (1 ex.); Pestbaai, Sta. 909, 9.X.1968 (1 ex.); S of San Pedro, Sta. 911, 7.XI.1968 (4 ex.); San Pedro, Sta. 912, 22.X.1968 (3 ex.); Ceru Rondó, E of Hato, Sta. 947, 21.II.1970 (1 ex.); Ceru di Boca, Sta. Martha, Sta. 950, 20.II.1970 (4 ex.); Peninsula in inner bay of Santa Martha,

Sta. 0137, 9.IX. 1973 (1 ex.); Piscadera Baai, 21.XII.1963 (1 ex., Hummelinck); E of Boca Sta. Marie, 22.XII.1963 (1 ex., id.); Put Klein St. Joris, 20.III.1970 (1 ex., id.); Curaçao, 30.III.1970 (1 ex., id.).
BONAIRE: Montagne, W of Curuburu, Sta. 803, 4.XII.1963 (5 ex.); Ceru Matijs, Washington, Sta. 939, 17.III.1970 (1 ex.); Palya Wecúa, Sta. 897, 28.X.1968 (4 ex.); S Bolivia near Rooi Caohori, Sta. 127, 14.VIII.1975 (1 ex.); Landhuis Guatemala, 19.IX.1967 (1 ex., Hummelinck); Seroe Ventana, Washington, 29. X.1968 (1 ex., id.); near Ceru Pretu, Washington, 19.III.1970 (1 ex., id.).

Curaçao, Klein Bonaire, Bonaire.

Blapstinus dominicus Marcuzzi, 1962

MARCUZZI, 1962, p. 34, pl. IV 6–7.

ST. CROIX: Upper Bethlehem hill slope, Sta. 612, 14.VI.1955 (1 ex.).
PUERTO RICO: Saliña Papayo near La Parguera, Sta. 699, 13.IX.1963 (27 ex.); Santiago, R.D., 26.III.1936 (1 ex., R. del Rosario, Mayagüez).
JAMAICA: Green Park Estate near Farmouth, 10.II.1925 & III.1967 (1 ex., H. J. Mac Gillavry).

St. Croix, Puerto Rico!, Hispaniola, Jamaica!

Blapstinus fortis Le Conte, 1878

CASEY, 1890, p. 429; CHAMPION, 1886, p. 126 (*interstitialis* Cha.); 1893, p. 526 (*fortis* Lec.); MARCUZZI, 1962, p. 32, pl. IV 3.

FLORIDA: Virginia Key, Laboratory beach, Sta. 689, 4.IX.1963 (2 ex.).

Cuba, Bahamas, Southern U.S.A., Central America?

Blapstinus hummelincki Marcuzzi, 1954

MARCUZZI, 1954, p. 17, pl. IV 5.

CURAÇAO: Seroe Cabajé, Porto Marie, Sta. 225A, 21.XI.1963 (3 ex.); Seroe Stela, St. Jorisbaai, Sta. 559, 20.II.1955 (1 ex.); Seroe Patía, Fuik, Sta. 810, 27.X.1963 (2 ex.); Seroe Pretoe, Fuik, Sta. 813, 22.XI.1963 (1 ex.); Piscadera, N part Carmabi area, Sta. 816, 30.XII.1963 (1 ex.); Boca Grandi, E, Savonet, Sta. 818, 19.XI.1963 (4 ex.); Boca Grandi, W, Sta. 820, 19.XI.1963 (1 ex.); Hofje St.

Kruis, Sta. 821, 30.XI.1963 (1 ex.); Pestbaai, Sta. 909, 9.X.1968 (1 ex.); Ceru Rondó, E of Hato, Sta. 947, 21.II.1970 (2 ex.).
KLEIN BONAIRE: N part, Sta. 807, 3.XII.1963 (1 ex.).
BONAIRE: Boca Onima, E, Sta. 312, 19.IX.1948 (1 ex.); Montagne, W of Curuburu, Sta. 803, 4.XII.1963 (1 ex.); NE Salinja Matijs, Washington, Sta. 940, 17.III.1970 (1 ex.). Playa Wecúa, Sta. 897, 28.X.1968 (18 ex.).

Curaçao, Klein Bonaire!, Bonaire.

In one specimen (♂) from Bonaire the pronotum has the sides slightly rounded and the angles (particularly the hind ones) more pronounced than in the other specimens.

Blapstinus kulzeri n. sp. Pl. IIIc

Middle size (5 mm), dark brown, with antennae and legs ferrugineous, shining, rather flattened, long, with the sides parallel for a noticeable length of the body. Head very strongly and densely punctured, antennae short and rather thick. Pronotum very transverse, sub-rectangular, with the sides posteriorly almost parallel, towards the apex slightly incurvated, so that hind angles almost rect, anterior ones subacute and rather pronounced. Apex of pronotum only slightly narrower than the base. The latter is only slightly bisinuated. Punctuation very strong, points almost contiguous, with a tendency to confluence at the sides. Elytrae at the base a little broader than the pronotum, long, with the sides almost parallel, only before the apex gradually and regularly incurved; striae very well impressed, furnished with very strong, deep, transverse points, interstriae convex especially towards the sides, where they tend to assume a costated aspect. Interstriae furnished with a fine, not very dense, punctuation. Legs relatively short.

JAMAICA: Campus Univ. of the W. Indies at Mona, NE Kingston, Sta. 018, 12.V.1973 (1 ex.); Grants Pan Gully, W of Yallahs, Sta. 020, 6.V.1973 (1 ex.).

Jamaica!

Blapstinus opacus opacus Mulsant & Rey, 1859

MULSANT & REY, 1859, p. 186; MARCUZZI, 1962, p. 36, pl. IV 11–12; MARCUZZI & D'AGUILAR, 1971, p. 81.

BARBUDA: Great Lagoon entrance at Billy point, beach, Sta. 832, 22.VII.1967 (7 ex.).
ST. CROIX: Fredensborg Hill, Sta. 615, 11.VI.1955 (1 ex.).
ST. JOHN: Chocolate Hole, Sta. 618, 19.VI.1955 (3 ex.).

Islote Aves (W. of Dominica), Guadeloupe, Barbuda!, St. Kitts, St. Eustatius, Fourche, Tintamarre, Anguilla, St. Croix, St. John.

The specimens from Barbuda are very small, with the sides of the pronotum sometimes rectilineous towards the basis. They may possibly belong to a new subspecies.

Blapstinus opacus martinensis n. subsp. Pl. IIg

Different from the nominal form because of different size (5 mm in length), plumper shape, the presence of a golden recumbent pubescence on the pronotum and the elytra, especially towards the sides, the tendency of the elytral striae to obsolescence, especially in the ♀, and because of anterior tarsi in ♂ much more dilated than in the nominal form. Also the anterior tibiae in the ♂ seem to be broader than in the nominal form.

ST. MARTIN: Grand' Case, small peninsula with dry shrubs, Sta. 057. 22.VI.1973 (1♂ and 1♀).

St. Martin!

The new subspecies could be a different species, allopatric with *B. opacus*, but I have in my collection two specimens coming from the Brême Collection, without locality, which represent an intermediate between the nominal form and subsp. *martinensis*, so that I do not consider it as opportune to describe the latter as a higher taxon. Much more material is needed to clear up the systematics of this Caribbean Tenebrionid.

Blapstinus orchilensis occidentalis Marcuzzi, 1954

MARCUZZI, 1954, p. 15, pl. V 8–9; 1959, p. 86.

ARUBA: Eagle Petr. Comp., sink hole, Sta. 562, 11.VIII.1955 (10 ex.).
CURAÇAO: Seroe di Boca, Kl. St. Joris, Sta. 202B, 25.II.1970 (1 ex.); Hato, near Wandongo, Sta. 220a, 31.XII.1963 (4 ex.); Top of Seroe Commandant, St. Kruis, Sta. 243Aa, 26.X.1963 (1 ex.); Hofje St. Kruis, Sta. 245a, 30.XI.1963 (2 ex.); Piscadera, N part Carmahi area, Sta. 816A, 30.XII.1963 (2 ex.); Boca Grandi, W, Savonet, Sta. 820, 19.XI.1963 (13 ex.); Hofje St. Kruis, Sta. 821, 30.XI.1963 (2 ex.); Westpunt Baai, Sta. 913, 13.IX.1968 (4 ex.); Ceru Rondó, E of Hato, Sta. 947, 21.II.1970 (1 ex.).
KLEIN BONAIRE: NW part, Sta. 808, 3.XII.1963 (1 ex.).
BONAIRE: Hofje Fontein, Sta. 193A, 11.IX.1948 (1 ex.); Playa Wecúa, Sta. 897, 28.X.1968 (12 ex.); Hofje Bronswinkel, Washington, Sta. 937, 19.III.1970 (11 ex.); Ceru Matijs, Washington, Sta. 939, 17.III.1970 (2 ex.).

Venezuela mainland (Paraguaná), Colombia (La Gojira), Aruba, Curaçao, Klein Bonaire!, Bonaire.

Blapstinus punctatus (Fabricius, 1792)

MULSANT & REY, 1859, p. 187; MARCUZZI, 1962, p. 36, pl. IV 10.

PUERTO RICO: La Parguera, Saliña Papayo, Sta. 699, 13.IX.1963 (1 ex.); Isla Magueyes near La Parguera, Sta. 700, 10.IX.1963 (18 ex.); Magueyes, at light, 19.IX.1963 (1 ex., Hummelinck); Ensenada, hill near former Laguna, Sta. 702, 15.IX.1963 (1 ex.); Mayagüez, III. 1937 (1 ex., N. R. Lasulla); Mayagüez, 1941 (1 ex., Dorsaimuil); Algarobbo, II.1931 (1 ex., S. T. Danforth); "Puerto Rico" (2 ex.).

St. John, St. Thomas, Puerto Rico, Cuba.

Blapstinus simulans simulans Marcuzzi, 1954

MARCUZZI, 1954, p. 15, pl. IV 4; 1962, p. 36, pl. II 6 (sub *B.s. barbadensis*).

TRINIDAD: Trinidad (2 ex., Brit. Museum N.H.).

Venezuela (Isla de Caribes, Sucre), Trinidad!

Two specimens from Trinidad, without date, which are much more similar to typical *simulans* from the coast of Sucre, than to *barbadensis*.

Blapstinus sp. prope **sulcipennis** Champion, 1893

Pl. IIId–f

CHAMPION, 1893, p. 129.

JAMAICA: Arawak Museum NE of Spanish Town, Sta. 012, 11.V.1973 (1 ex.); Long Mountain near Mona Reservoir, Sta. 016, 6.VI.1973 (1 ex.); Campus of Univ. of the W. Indies at Mona, NE of Kingston, Sta. 018, 12.V.1973 (1 ex.); same, Sta. 019, 12.V.1973 (1 ex.).
GRAND CAYMAN: Limestone hill W of Botabano, Sta. 953, 18.V.1973 (1 ex.); West Bay Light Tower, Sta. 955, 19.V.1973 (1 ex.); N of Red Bay, Sta. 962, 21.V.1973 (1 ex.); SW of Air Strip, Sta. 963, 21.V.1973 (3 ex.); Savannah Village, Sta. 967, 23.V.1973 (3 ex.); Lower Valley, Sta. 968, 23.V.1973 (1 ex.); 2.5 km NE Breakers, Sta. 971, 27.V.1973 (1 ex.).

Jamaica!, Grand Cayman!

Blapstinus sulcipennis is known from Guatemala.

Identification of the present specimens is impossible without a thorough study of the extremely difficult group of Central American species to which e.g. *B.sulcipennis* and *B. egenus* belong.

Penichrus impressicollis (Fairmaire, 1892)

FAIRMAIRE, 1892, p. 81 (sub *Diastolinus*); MARCUZZI, 1949, p. 341 (sub *Diastolinus*); 1959, p. 84 (sub *Diastolinus*).

TRINIDAD: Monos island, Sta. 578, 10.I.1955 (2 ex.); Perseverance Estate, ESE of Point Fortin, Sta. 791, 16.I.1964 (4 ex.).

Venezuelan mainland (from S. Estevan, Carabobo, north, and from Apure, south, eastward), Trinidad.

Another species of this genus, *P. blapstinoides* Cha., is known from Central America, Panamá and Costa Rica (not published data). According to CHAMPION (1893) there is another species, *P. nanus* Dej. (nomen nudum) occurring from Colombia to Brasil. It is not impossible that this species is identical with *P. impressicollis*.

It is strange that FAIRMAIRE has described his "*D. impressicollis*" as a *Diastolinus*, and I would say that it is still stranger that CHAMPION, with his extraordinary experience in Tenebrionids, says of *Penichrus blapstinoides*: "form of *Blapstinus*", since *Penichrus* recalls neither *Blapstinus* nor *Diastolinus*.

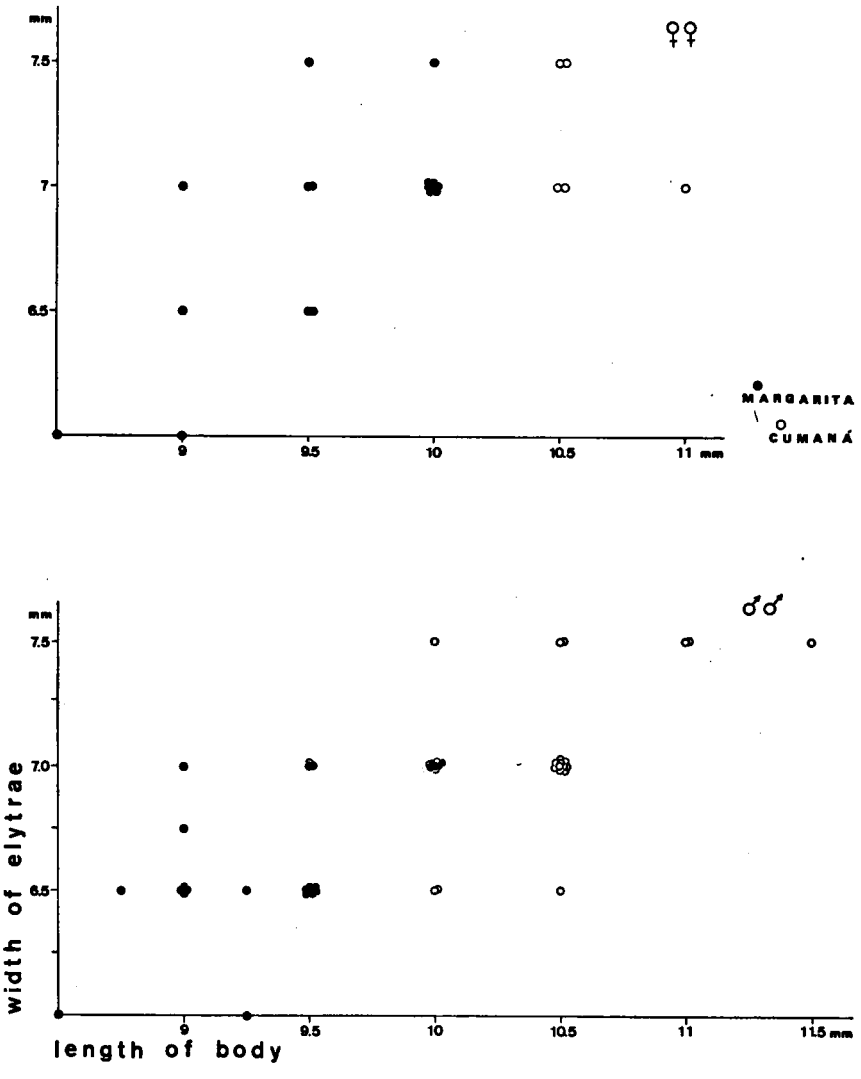

Fig. 10. The ratio length of body / width of elytrae in two different populations of *Trichoton marcuzzi*, from Margarita and Cumaná, Ven.

Trichoton curvipes Champion, 1885

CHAMPION, 1885, p. 136; MARCUZZI, 1949, p. 346; 1959, p. 86.

VENEZUELAN MAINLAND: Maracay, Aragua (2 ex., Vogl, Mus. Munich); Venezuela (2 ex. coll. Brême, Torino).
COLOMBIA: Colombia (2 ex., Moritz, Mus. Munich).
CURAÇAO: Top Seroe Commandant, St. Kruis, Sta. 243Aa, 26.X.1963 (1 ex.); Spaanse Put near Playa Frankie, Sta. 560, 27.II.1955 (1 ex.); Boca Grandi, E cliff, Savonet, Sta. 818, 19.XI.1963 (1 ex.).

Central America, Colombia, Venezuela, Curaçao.

Trichoton marcuzzii Kulzer, 1961

MARCUZZI, 1949, p. 347 (sub *lapidicola* Cha.); 1954, p. 21, pl. VII 4 (sub *lapidicola* Cha.); KULZER, 1961, p. 212; MARCUZZI & D'AGUILAR, 1971, p. 81, fig. 3.

MARGARITA: El Cuice, N of Punta Carnero, Sta. 799, 10.I.1964 (1 ex.).

Venezuelan mainland (Sucre), Margarita, Blanquilla, Guadeloupe.

The species is very variable. The populations of the mainland (Península de Araya) and Margarita (cf. MARCUZZI 1954) show some biometric differences (Fig. 10). The specimens from Guadeloupe seem to be smaller than those of South America; furthermore the contour of the body is more rounded, in particular the sides of the pronotum. The latter are dilated outwards and forwards in the Venezuelan populations, while in Guadeloupe they are more regularly rounded.

Trichotoides hintoni (Kaszab, 1949)

KASZAB, 1949, p. 775 (sub *Scaptes*); MARCUZZI, 1954, p. 23, fig. 4, pl. VII 5–6.

MARGARITA: Punta Mosquito beach, Sta. 797, 13.I.1964 (1 ex.).

Central America, Venezuelan mainland (Sucre and Paraguaná), Colombia (La Goajira), Margarita.

Phaleria angustata Chevrolat, 1878

CHEVROLAT, 1878, p. ccxlviii; WOLCOTT, 1936, p. 234; MARCUZZI, 1954, p. 25; 1962, p. 38, pl. V 3–4; MARCUZZI & D'AGUILAR, 1971, p. 83.

TRINIDAD: Blanchisseuse Bay, 1.VI.1941 (4 ex., E. C. Humphries, Brit. Mus.).
TOBAGO: Minster Bay, VII.1942 (1 ex., E. C. Humphries, Brit. Mus.).
GRAND CAYMAN: E of Boddentown, Sta. 970, 23.V.1973 (11 ex.).

Venezuelan mainland (D.F., Sucre), Margarita, Trinidad, Tobago!, Guadeloupe, Nevis, St. Martin?, Puerto Rico, Hispaniola, Jamaica, Grand Cayman!

The specimens from Venezuela are smaller than those of the West Indies, and the elytral striae are more pronounced over all their length. Further study may possibly prove that we are confronted with two different subspecies.

Phaleria caymanensis n. sp. Pl. IIIg–h

Very small (4 mm), rather convex, very shining, yellow with an exception for head, femurs and abdomen, dark brown. Head rather strongly but sparsely punctured. Pronotum very transverse, trapezoidal, gradually narrowed from base to apex; sides only slightly incurved; both base and apex truncate, hind angles rect, anterior angles very obtuse. At the base on each side there is a rather short incision. Base of pronotum not margined. Elytrae oblong ovate, rather convex, at the base broader than the pronotum, widest more or less at the middle, towards the base almost parallel, toward the apex regularly narrowed, so that the animal looks somewhat regularly oval (Fig. 9). Striae well impressed all along the elytra, posteriorly more incised, furnished with some very distinct small points, rather contiguous, more impressed in the medial part of the elytra. Interstriae slightly convex, especially towards the apex and the sides; practically impunctate at a low magnification (20 ×).

GRAND CAYMAN: E of Boddentown, among decaying sea grass on sandy beach, Sta. 970, 23.V.1973 (2 ex.).

Grand Cayman!

Very similar to small individuals of *Phaleria fulva*, from which the present species may be immediately distinguished thanks to the well impressed elytral striae.

Phaleria chevrolati Fleutiaux & Sallé, 1889

FLEUTIAUX & SALLÉ, 1889, p. 9; MARCUZZI, 1954, p. 25; MARCUZZI & D'AGUILAR, 1971, p. 83.

ST. MARTIN: Îlet Pinel, beach, Sta. 0100, 15.VII.1973 (1 ex.). Doubtfully referred to *P. chevrolati*.

Venezuelan mainland, Grenada, Mustique, Les Saintes, St. Martin!

Phaleria fulva Fleutiaux & Sallé, 1889

FLEUTIAUX & SALLÉ, 1889, p. 423; CHAMPION, 1896, p. 10; MARCUZZI, 1954, p. 25 (sub *Phaleria* cfr. *fulva* Fl. et S.); 1962, p. 37, pl. V 1–2; MARCUZZI & D'AGUILAR, 1971, p. 84.

VENEZUELAN MAINLAND: Todasana, Miranda (plur., Mus. Frey).
ORCHILA: Orchila, IX.1959 (6 ex., Mus. Frey).
ISLOTE AVES: (W of Dominica): Sta. 412, 12.V.1949 (1 ex.).
BARBUDA: Entrance of Great Lagoon at Billy Point, Sta. 832, 22.VII.1967 (1 ex.).
PUERTO RICO: Playuela, Cabo Rojo, Sta. 697, 18.IX.1963 (1 ex.); Playa Mediania Alta, E of San Juan, Sta. 038, 1.V.1973 (3 ex.).

Venezuelan mainland (Sucre, La Goajira), Margarita, Orchila!, Grenada, Grenadines (Mustique), Islote Aves, Les Saintes, Guadeloupe, Barbuda!, Puerto Rico!

Phaleria guadeloupensis Fleutiaux & Sallé, 1889

FLEUTIAUX & SALLÉ, 1889, p. 423; MARCUZZI & D'AGUILAR, 1971, p. 83, fig. 6.

MARIE-GALANTE: Capesterre, Les Galeries, beach, Sta. 744, 2.II.1964 (1 ex.).

Les Saintes, Marie-Galante!, Guadeloupe, St. Martin.

Phaleria jamaicensis n. sp. Pl. IIIi

Rather big (5 mm), very convex, reddish-brown with head and antennae brownish-black. Shining, short, with rather parallel sides, recalling a little the shape of some *Aphodius* (Scarabaeidae). Narrowed more anteriorly than posteriorly. Head very finely and rather closely punctured. Pronotum transverse, regularly rounded at the sides, base truncate, apex slightly emarginate, only little narrower than the base. Anterior angles perfectly rect. Base not margined. Surface of pronotum very shining, with an extremely minute though rather close punctuation scarcely visible at low magnification (20 ×). Before the base there are two very small lateral impressions. Elytrae at the base just a little broader than the pronotum, slightly but regularly rounded at the sides, widest at the middle. Striae well impressed though not deep all along the elytra, furnished with some minute points rather contiguous, less evident on the more lateral striae. Interstriae shining, very convex, practically impunctate.

JAMAICA: Drunkemans Key, near Port Royal, Sta. 023, 15.VI.1973 (1 ex.).

Jamaica!

This species possibly belongs to the group of *Phaleria picipes* Say.

Phaleria maculipennis Marcuzzi, 1962

MARCUZZI, 1962, p. 37, pl. V 5–10; 1954, p. 25 (sub *Phaleria* sp.); MARCUZZI & D'AGUILAR, 1971, p. 84.

MARGARITA: Punta Mosquito beach, Sta. 797, 13.I.1964 (2 ex.).
TRINIDAD: Los Gallos Point beach, Sta. 790, 16.I.1964 (1 ex.); Blanchisseuse Bay, VI, 1941 (8 ex., E. C. Humphries, Brit. Mus.).
BARBADOS: Long Pond near Belleplaine, sandy margin of brackish pond, Sta. 773A, 17.II.1942 (4 ex.).
MARTINIQUE: Îlet Hardy, sand beach, Sta. 764, 11.II.1964 (1 ex.).
GUADELOUPE: Gozier beach, Sta. 842, 16.VII.1967 (12 ex.).
LA DÉSIRADE: Grande Anse beach. Sta. 730, 25.I.1964 (16 ex.).
ST. EUSTATIUS: Concordia Bay, Sta. 433a, 10.X.1963 (81 ex.). All specimens were collected from decaying algae and other plant material on a sandy beach, those of Barbados excepted.

PUERTO RICO: Río Piedras, VII.1931 (2 ex., coll. Alsina, Mayagüez).
MONA: Mona, VIII.1944 (2 ex., Harry A. Beatty).

NE Venezuelan mainland, Cayenne?, Margarita, Trinidad!, Barbados!, Martinique!, Guadeloupe, La Désirade!, St. Eustatius, Puerto Rico!, Mona!

The specimens from Puerto Rico and Mona island show the elytral striae somewhat deeper than in the other populations. The two specimens from Puerto Rico have a dark spot on each elytron, very extended, whereas both specimens from Mona are testaceous. In the latter specimens the head is dorsally rather dark, but all the central parts of the body are yellow-ferrugineous, so that they cannot be confused with other species of the Caribbean area.

At the Natural History Museum of Vienna there is a number of specimens belonging to this species determined as follows:
testacea var. ?*maculipennis* Dej. C, Bras. [= Brasil], 3 ex., of which 1 has the indication "Natt. Br." scarcely legible, and two the indication "Ullr.",
testacea Say Amer. bor. [= North America], 2 ex. with the indication "Ferr. 852". It is to be noted that these 2 specimens are together with one specimen which – though without any indication of locality – belongs really to *Phaleria testacea*, known according to GEBIEN's Catalogue from the shores of Eastern U.S.A.

Phaleria punctipes Le Conte, 1878

LE CONTE, 1878, p. 421.

FLORIDA: Virginia Key, Laboratory beach, Sta. 689, 4.IX.1963 (15 ex.); Key Biscayne, North Point beach, Sta. 690, 7.IX.1963 (1 ex.).

Florida.

Microcrypticus scriptipennis (Fairmaire, 1875)

FAIRMAIRE, 1875, p. xxxiii; CHAMPION, 1896, p. 14; KULZER & CHÛJÔ, p. 337, fig. 35.

GUADELOUPE: Petit Bourg, Duclos, 12.II.1962 (1 ex., J. Bonfils, I.N.R.A.).

Asia, Africa, Australia, Mariane Isl., America; Grenada (where according to CHAMPION "the insect must have been introduced"), Guadeloupe! – Absent in GEBIEN's Catalogue; quoted by BLACKWELDER (p. 528) from"? Grenada and Old World."

Platydema sp.

TRINIDAD: Tamana Quarry, Sta. 568, 9.I.1955 (1 ex.).
GRAND CAYMAN: Walkers Road, Sta. 958, 20.V.1973 (1 ex.).

Palembus ocularis Casey, 1891

CASEY, 1891, p. 65; WOLCOTT, 1936, p. 235; MARCUZZI & D'AGUILAR, 1971, p. 85 (sub *Iccius* sp.).

GUADELOUPE: Petit Bourg, Duclos, 3.V.1961 (3 ex., J. Bonfils, bred from *Tamarindus indica*).
PUERTO RICO: Cabo Rojo lighthouse, Tamarind pods, 2.IX.1944 (2 ex., J. A. Ramos, Mayagüez).

Guadeloupe!, Puerto Rico, Florida.

Described by CASEY from Florida, collected by WOLCOTT in Tamarind pods, feeding on seeds. Possibly the species can be transported passively with tamarind plants, so that it is difficult to know its native country.

Uloma parvula Champion, 1896

CHAMPION, 1896, p. 23.

ST. LUCIA: Bar de l'Isle, 20.X.1935 (1 ex., H. E. Box leg., Brit. Mus.).

St. Vincent, St. Lucia!

Tribolium castaneum (Herbst, 1797)

SEIDLITZ, 1898, p. 581; MARCUZZI, 1949, p. 348; 1954, p. 26, pl. II 5; 1959, p. 87; MARCUZZI & D'AGUILAR, 1971, p. 85.

PUERTO RICO: Forest of Mariacao, 3.VIII.1946 (1 ex., Mayagüez).

Cosmopolitan; Venezuelan mainland, Curaçao, Margarita, Martinique, Guadeloupe, Puerto Rico!

Alegoria dilatata Laporte, 1840

LAPORTE, 1840, p. 221; GEBIEN, 1928, p. 130; MARCUZZI, 1949, p. 348; 1924, p. 26.

TRINIDAD: I.C.T.A. banana exp., Sta. 575, 31.I.1955 (1 ex.).
GRENADA: Grenada (1 ex., Myers, I.C.T.A.).
ST. LUCIA: Gros Islet, Mongrioud bananas etc., Sta. 853, 11.VII.1967 (1 ex.)

Central and South America, Trinidad, Grenada!, St. Lucia!

Trachyscelis flavipes Melsheimer, 1846

HORN, 1870, p. 377; MARCUZZI & D'AGUILAR, 1971, p. 83, fig. 5.

PUERTO RICO: Playa Medianía Alta, E of San Juan, decay on beach, Sta. 038, 1.V.1973 (1 ex.).

Southwestern coast of North America; Guadeloupe, Barbuda, St. Martin, St. Thomas, Puerto Rico!

Alphitobius diaperinus (Panzer, 1797)

SEIDLITZ, 1898, p. 604; MARCUZZI & D'AGUILAR, 1971, p. 87, fig. 11.

PUERTO RICO: Isla Magueyes, near La Parguera, Sta. 700, 10.IX.1963 (1 ex.); Mayagüez, 10.III.1942 (3 ex., coll. J. A. Ramos, Mayagüez); Mayagüez, X.1938 (1 ex., coll. C. H. Romney, Mayagüez).

Cosmopolitan; Martinique, Guadeloupe, Puerto Rico!

Alphitobius laevigatus (Fabricius, 1781)

SEIDLITZ, 1898, p. 606; MARCUZZI, 1949, p. 349; 1954, p. 26; 1962, p. 38, pl. VI 4–5; MARCUZZI & D'AGUILAR, 1971, p. 89.

VENEZUELAN MAINLAND: Cagua, Aragua, 1960 (1 ex., Bordon, Mus. G. Frey).
ARUBA: Oranjestad, hennery, Sta. 561, 4.V.1955 (11 ex.); Tunnel of Love near Rincón, bat faeces, Sta. 824a, 11.XI.1963 (30 ex.); same, Sta. 824A (3 ex.).
CURAÇAO: Cueba di Noordkant, Sta. 0132a, 22.VIII.1973 (81 ex.).
ANTIGUA: Bats Cave near Nelson's Dockyard, Sta. 592, 13 VII.1955 (94 ex.).
ST. MARTIN: Devil's Hole, Sta. 474, 4.VIII.1949 (111 ex.); Sta. 474a, 26.VII. 1955 (14 ex.); Sta. 474b, 14.X.1963 (54 ex.); 474Aa, 14.X.1963 (60 ex.); same,

Sta. 681b, 24.VI.1955 (3 ex.); all among limestone debris with bat faeces of *Tadarida brasiliensis*; Philipsburg school, Sta. 608, 24.VI.1955 (1 ex., among faeces of *Molossus molossus*).

Cosmopolitan, Aruba, Curaçao, Trinidad, Antigua, Saba, St. Martin, Puerto Rico, Cuba.

Rhipidandrus cornutus Arrow, 1904 (?)

ARROW, 1904, p. 31; BARBER, 1913, p. 192.

GUADELOUPE: Guadeloupe (2 ex. without further indication, University of Porto, Portugal, labelled as "*Eledone antillana* Deyr."

It should be *Rhipidandrus micrographus* Lac. sensu FLEUTIAUX & SALLÉ, 1889 (p. 71), and sensu GORHAM, 1889, quoted by the former from Guadeloupe, and by the latter from St. Vincent, Grenada and Guadeloupe, and described by LACORDAIRE from French Guyana and Colombia (cfr. BARBER). Possibly to the same species belongs the form recorded from Puerto Rico by WOLCOTT with the name "*R. micrographus*". It certainly does not belong to *R. sulcatus*, of which I have seen the description, a species described from St. Vincent and known with some incertitude from Cuba and Santo Domingo. Possibly we are confronted with a species widely distributed in the West Indies (as several fungicolous beetles are), from Puerto Rico to Grenada, partially sympatric with *R. sulcatus* (a more occidental species), whereas *R. micrographus* would be limited to South American mainland. Without an abundant material for comparison nothing definite can be said on these species.

According to GEBIEN (Catalogue, p. 521) the Tribus Rhipidandrini has a systematic status not yet very clear. The various species have been attributed by the various authors to Scarabaeidae, Anobiidae, Ipidae and Tenebrionidae. The tetramerous species should be placed, according to Gebien, within *Cisidae*; only the genus *Eledone* is a heteromerous insect.

Diaperis maculata Olivier, 1791

HORN, 1870, p. 379 (sub *hydni* Fabr.); CHAMPION, 1893, p. 174.

PUERTO RICO: Barraquintas, XII.1920 (1 ex., coll. Calom, Mayagüez); Hummacao, 12.X.1930 (1 ex., coll. J. A. Zalduondo, Mayagüez).

U.S.A., México, Guatemala, Puerto Rico!, Cuba.

Ulosonia biimpressa (Latreille, 1833)

CHAMPION, 1893, p. 165; KULZER, 1962, p. 92.

VENEZUELAN MAINLAND: Caracas, 15.IV.1950 (1 ex., leg. Roze, private coll.). CURAÇAO: Carmabi, Piscadera Baai, at light, 24.X.1963 (1 ex., Hummelinck).

México, Central and South America, Curaçao!, Cuba.

Metulosonia sp.

JAMAICA: Jamaica, 1916 (4 ex., A. H. Ritchie leg., Brit. Mus.).

Possibly a new species.

Sitophagus hololeptoides (Castelnau, 1840)

CASTELNAU, 1840, p. 220; MARCUZZI & D'AGUILAR, 1971, p. 89.

CUBA: Holquin, 1904 (1♂, 1♀, in Sharp Coll., Brit. Mus.).

Almost cosmopolitan; Guadeloupe, Cuba!

Zophobas atratus (Fabricius, 1775)

KRAATZ, 1880, p. 128 (sub *Z. morio*); MARCUZZI, 1949, p. 350; 1954, p. 27, pl. VI 2 (sub. *Z.* cfr. *atratus*); 1959, p. 90; MARCUZZI & D'AGUILAR, 1971, p. 90, fig. 14.

VENEZUELAN MAINLAND: S. Sebastian, Aragua (plures, Mus. Frey); Parmana, Guárico (1 ex., private coll.).

TRINIDAD: St. Augustine, IX–X, 1941 (1 ex., E. C. Humphries, Brit. Mus.); Trinidad, 1937 (4 ex., L. Fitzgerald, Brit. Mus.).
BARBADOS: Welchman Hall's Gully, Sta. 776, 20.II.1964 (1 ex.).
PUERTO RICO: Cerro Papayo, La Parguera, Sta. 698, 19.IX.1963 (1 ex.); Mayagüez, IX.1947 (1 ex., coll. Reilova, Mayagüez).

Central America, Venezuela, Aruba, Hermanos, Margarita, Testigos, Trinidad, Barbados, Puerto Rico.

Zophobas batavorum Marcuzzi, 1959

MARCUZZI, 1954, p. 27, pl. VI 1 (sub *Zophobas* sp. (sp. n.?)); 1959, p. 88, fig. 87, pl. VI 4.

ARUBA: Oranjestad, hennery, Sta. 561, 4.V.1955 (1 ex.).
CURAÇAO: Top of Seroe Commandant, St. Kruis, Sta. 243Aa, 26.X.1963 (1 ex.); Hato, W of airport, Sta. 910A, 7.XI.1968 (2 ex.).
BONAIRE: Hofje Fontein, Sta. 193Aa, 8.IX.1967 (4 ex.); same, IX,1961 (1 ex.); Landhuis Bacuna, 10.IX.1967 (1 ex., Hummelinck).
ST. MARTIN: Agr. Exp. Sta. St. Peter, Sta. 468A, 29.VI.1955 (1 ex., among *Cocos* decay, highly probably imported).

Aruba, Curaçao, Bonaire, St. Martin (intr.?).

Zophobas rugipes Kirsch, 1866

KIRSCH, 1866, p. 197; KRAATZ, 1880, p. 130; MARCUZZI, 1954, p. 27 (sub *Z.* cfr. *rugipes*); 1959, p. 87; 1962, p. 39 pl. VI 2, 7; MARCUZZI & D'AGUILAR, 1971, p. 90.

ARUBA: Oranjestad, hennery, Sta. 561, 4.V.1955 (1 ex.).
ST. CROIX: Fredensborg, Sta. 615, 11.VI.1955 (2 ex.).
PUERTO RICO: Mayagüez, 1930 (2 ex., coll. Bosa, Mayagüez); Mayagüez, XI. 1948 (1 ex., coll. Echevarria, Mayagüez).

From México to Brasil, Aruba, Curaçao, Guadeloupe, Saba, St. Martin, St. Croix, Puerto Rico, Cuba.

Cyrtosoma jamaicensis n. sp. Pl. IIh

Middle size (8.5 mm), black with a feeble bluish tinge, with exception of tarsi and antennae, ferrugineous. Oblong ovate, moderately convex, the convexity of elytrae greater than that of the

pronotum, but rather uniform on all its length. Head and pronotum rather dull, elytrae shining. Antennae very long and slender, surpassing distinctly the base of the pronotum. Clypeus long, scarcely separated from the forehead, upper labium rather short, not well visible from above, mandibles well visible. Head and pronotum practically smooth. Sides of the pronotum rather regularly arcuated with the maximum width at the middle. Apex of pronotum narrower than the base, so that anterior angles well pronounced, subacute, hind angles obtuse. Pronotum distinctly margined on the sides, apex and base, the margin flattened and somewhat widened at the middle of the sides. Base of pronotum and elytrae truncate. Scutellum almost invisible. Elytrae regularly arcuated at their sides, maximum width somewhat beyond the middle. Striae well impressed, each furnished with a row of rather great points, almost contiguous along the striae, interstriae rather flat in the middle, a little more convex towards the sides, furnished with small points tendent to constitute one rather regular row on each interstria. Legs rather long, particularly the tibiae, which are a little bent inwardly.

JAMAICA: Arawak Museum, Sta. 012, 11.V.73 (1 ex.).

Jamaica!

ZOOGEOGRAPHICAL CONSIDERATIONS

In this paper the Antilles are considered to include the arc of islands from the Bahamas to Grenada, as opposed to HUMMELINCK (1940, 1953) and others who are excluding the Bahamas and consider the islands of the Leeward Group, from Trinidad to Aruba, also as Antillean territory. These latter islands off the Venezuelan coast are recorded here only insofar as they belong to the distribution area of "Antillean species". The fauna of the Leeward Group has been studied before by the present author; the results are published in these *Studies* (1954, 1959).

The distribution of non-Melasomes is not discussed; the data are used however for a quantitative analysis of the Antillean Tenebrionid fauna.

TABLE 1.

GEOGRAPHICAL DISTRIBUTION OF ANTILLEAN TENEBRIONIDAE

× according to specimens collected by P. WAGENAAR HUMMELINCK
o data from other material – data from literature

Species / Localities	Central America	U.S.A. mainland	Florida Keys	Bahamas	Cuba	Grand Cayman	Little Cayman	Cayman Brac	Jamaica	Hispaniola	Mona	Puerto Rico	St. Thomas, St. John	St. Croix	Anguilla	St. Martin, Tintamarre	St. Barts, Fourche	Saba	St. Eustatius	St. Kitts, Nevis	Barbuda	Antigua	Montserrat	Guadeloupe
Tentyriinae																								
Epitragus																								
aurulentus	o	.	.	.	.	.	.	.	–	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Ecnomosternum																								
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Tapinocomus																								
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subnudus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stictoderia																								
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Paraguania																								
hummelincki	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Trientoma																								
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Asidinae																								
Rhypasma																								
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Tenebrioninae																								
Branchus																								
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Diastolinus																								
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barb. antiguanus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	×	.	.	.	×	×	.
caymanensis	.	.	.	.	.	.	.	×	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
chevrolati	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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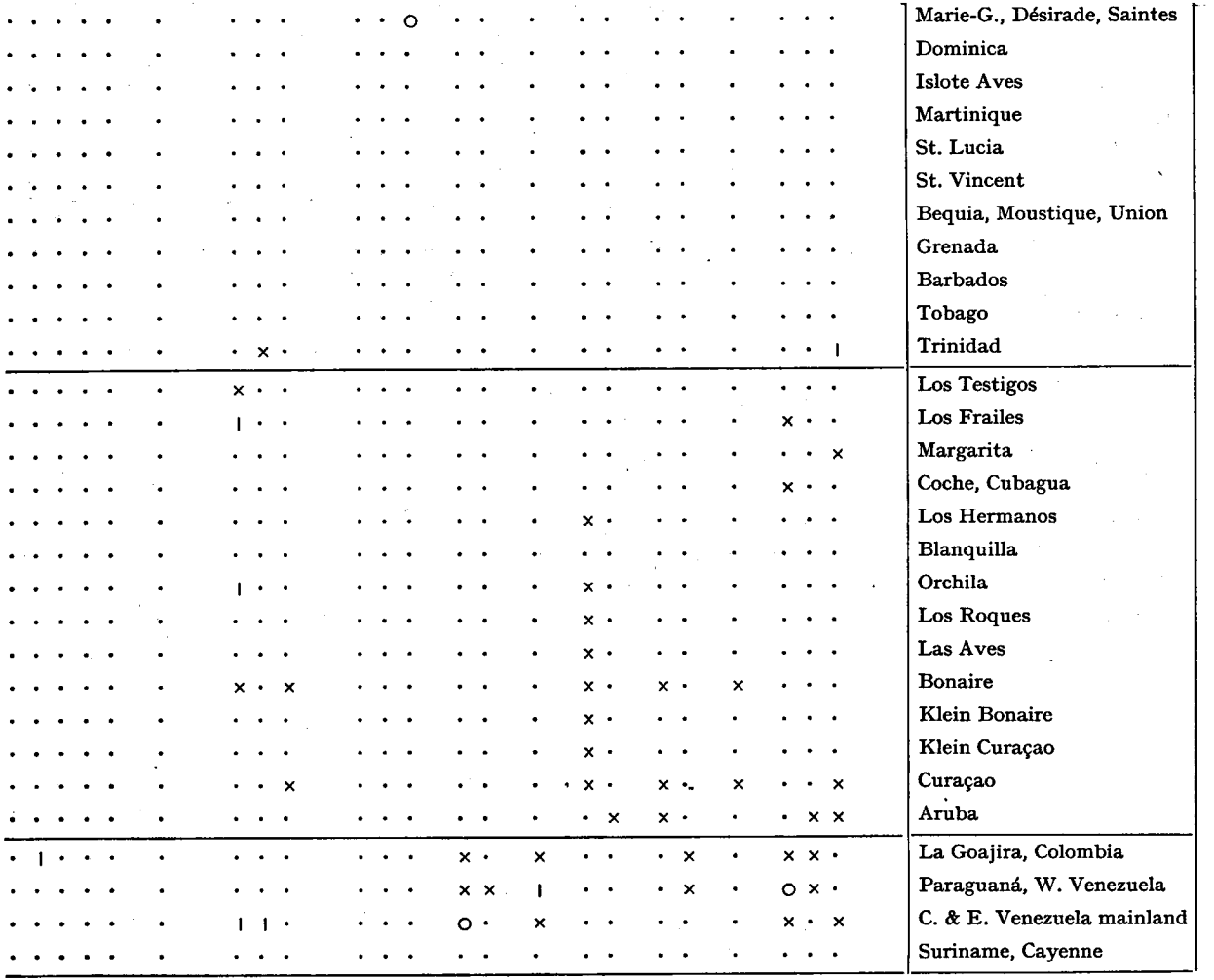
Marie-G., Désirade, Saintes
Dominica
Islote Aves
Martinique
St. Lucia
St. Vincent
Bequia, Moustique, Union
Grenada
Barbados
Tobago
Trinidad
Los Testigos
Los Frailes
Margarita
Coche, Cubagua
Los Hermanos
Blanquilla
Orchila
Los Roques
Las Aves
Bonaire
Klein Bonaire
Klein Curaçao
Curaçao
Aruba
La Goajira, Colombia
Paraguaná, W. Venezuela
C. & E. Venezuela mainland
Suriname, Cayenne

Species / Localities	Central America	U.S.A. mainland	Florida Keys	Bahamas	Cuba	Grand Cayman	Little Cayman	Cayman Brac	Jamaica	Hispaniola	Mona	Puerto Rico	St. Thomas, St. John	St. Croix	Anguilla	St. Martin, Tintamarre	St. Barts, Fourche	Saba	St. Eustatius	St. Kitts, Nevis	Barbuda	Antigua	Montserrat	Guadeloupe
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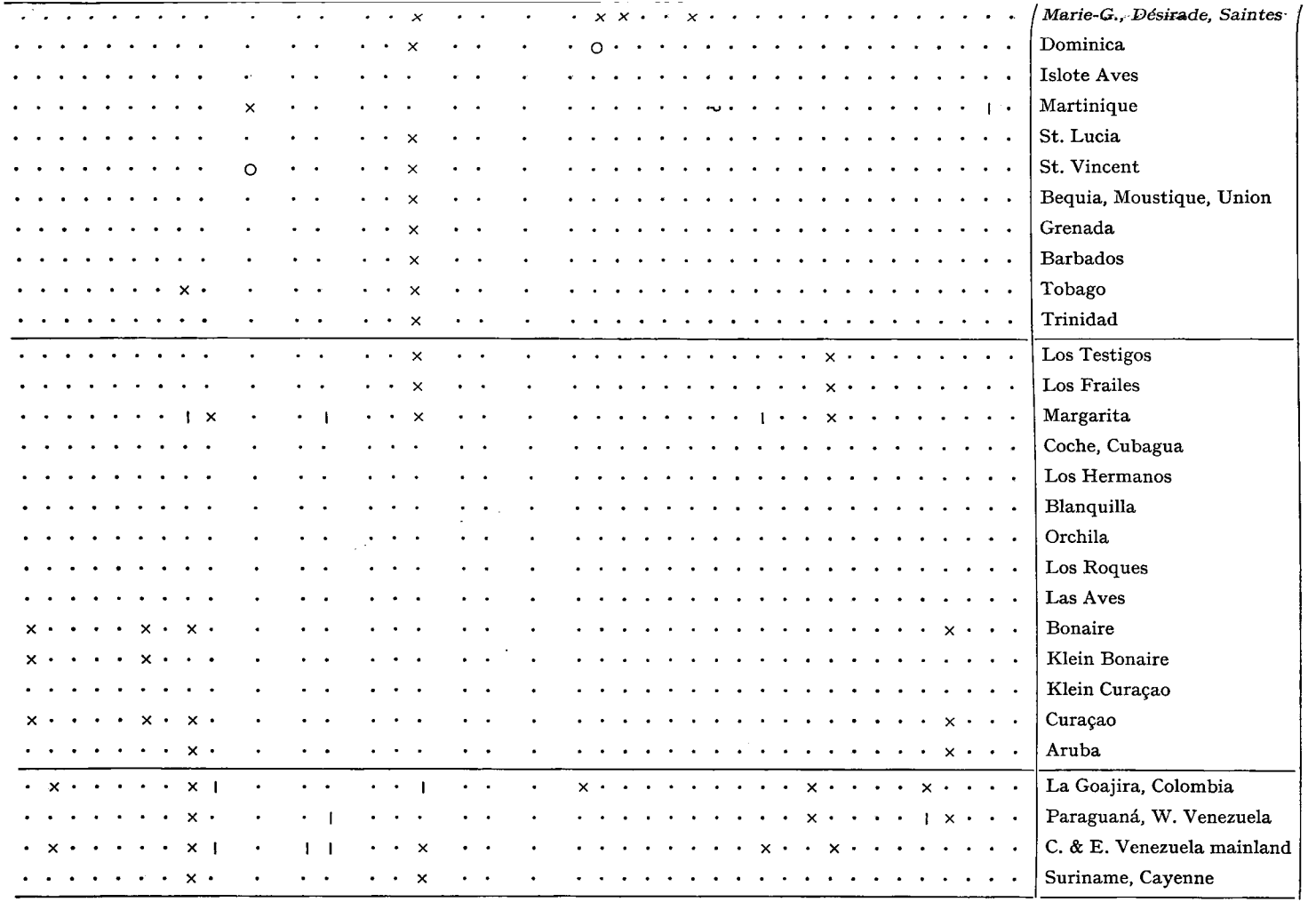
hummelincki	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.


Marie-G., Désirade, Saintes
Dominica
Islote Aves
Martinique
St. Lucia
St. Vincent
Bequia, Moustique, Union
Grenada
Barbados
Tobago
Trinidad
Los Testigos
Los Frailes
Margarita
Coche, Cubagua
Los Hermanos
Blanquilla
Orchila
Los Roques
Las Aves
Bonaire
Klein Bonaire
Klein Curaçao
Curaçao
Aruba
La Goajira, Colombia
Paraguaná, W. Venezuela
C. & E. Venezuela mainland
Suriname, Cayenne

Species / Localities	Central America	U.S.A. mainland	Florida Keys	Bahamas	Cuba	Grand Cayman	Little Cayman	Cayman Brac	Jamaica	Hispaniola	Mona	Puerto Rico	St. Thomas, St. John	St. Croix	Anguilla	St. Martin, Tintamarre	St. Barts, Fourche	Saba	St. Eustatius	St. Kitts, Nevis	Barbuda	Antigua	Montserrat	Guadeloupe
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opacus martinensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	×	.	.	.	.	.	.	.	.
orchilensis orchil.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
orchil. occidentalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
paraguanae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Austrocaribius																								
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Hummelinckia																								
caraibica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Penichrus (=*Diast.*)																								
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Trichoton																								
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Platydema																								
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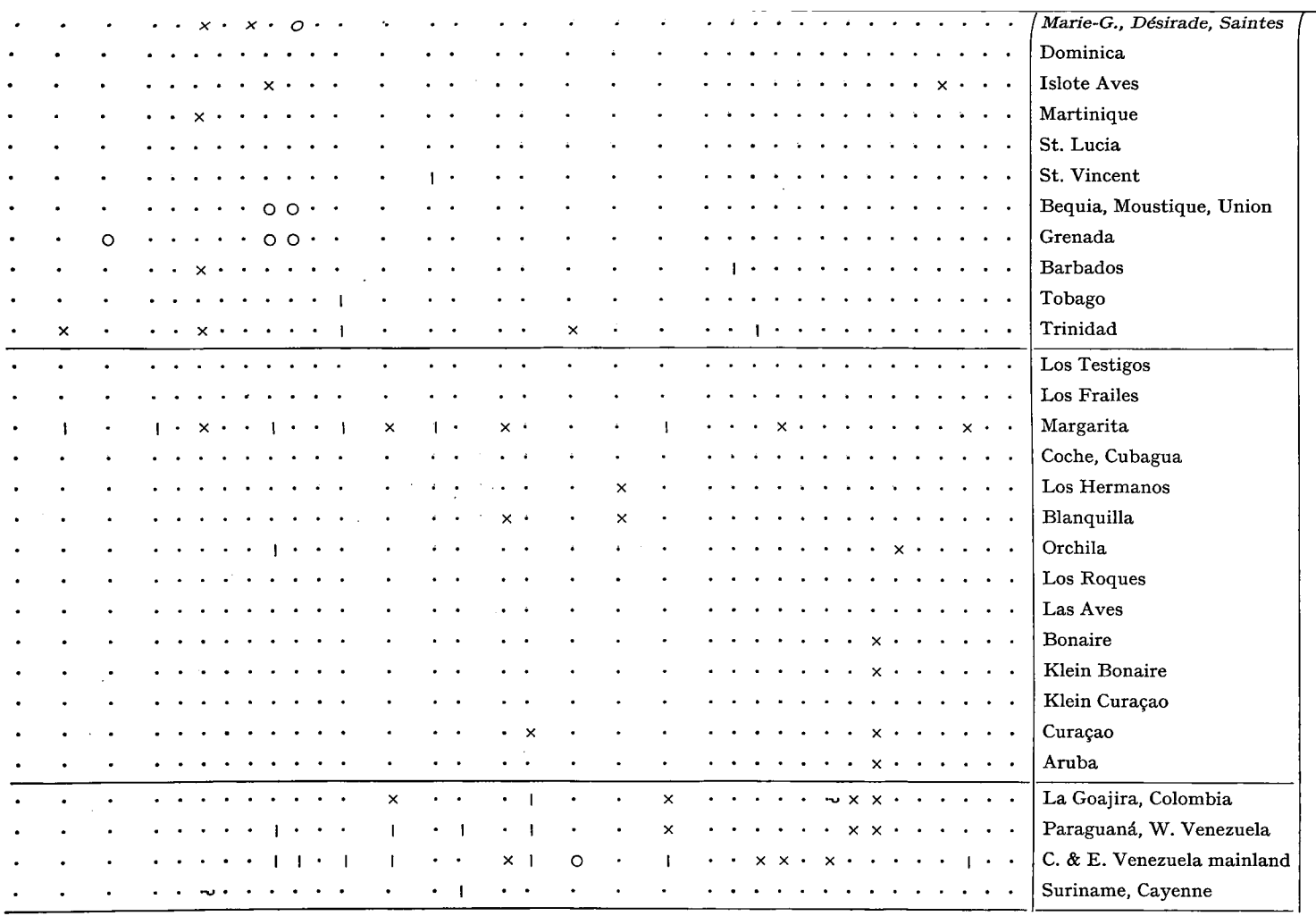
Marie-G., Désirade, Saintes
Dominica
Islote Aves
Martinique
St. Lucia
St. Vincent
Bequia, Moustique, Union
Grenada
Barbados
Tobago
Trinidad
Los Testigos
Los Frailes
Margarita
Coche, Cubagua
Los Hermanos
Blanquilla
Orchila
Los Roques
Las Aves
Bonaire
Klein Bonaire
Klein Curaçao
Curaçao
Aruba
La Goajira, Colombia
Paraguaná, W. Venezuela
C. & E. Venezuela mainland
Suriname, Cayenne

Species / Localities	Central America	U.S.A. mainland	Florida Keys	Bahamas	Cuba	Grand Cayman	Little Cayman	Cayman Brac	Jamaica	Hispaniola	Mona	Puerto Rico	St. Thomas, St. John	St. Croix	Anguilla	St. Martin, Tintamarre	St. Barts, Fourche	Saba	St. Eustatius	St. Kitts, Nevis	Barbuda	Antigua	Montserrat	Guadeloupe
Uloma																								
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parvula	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Alegoria																								
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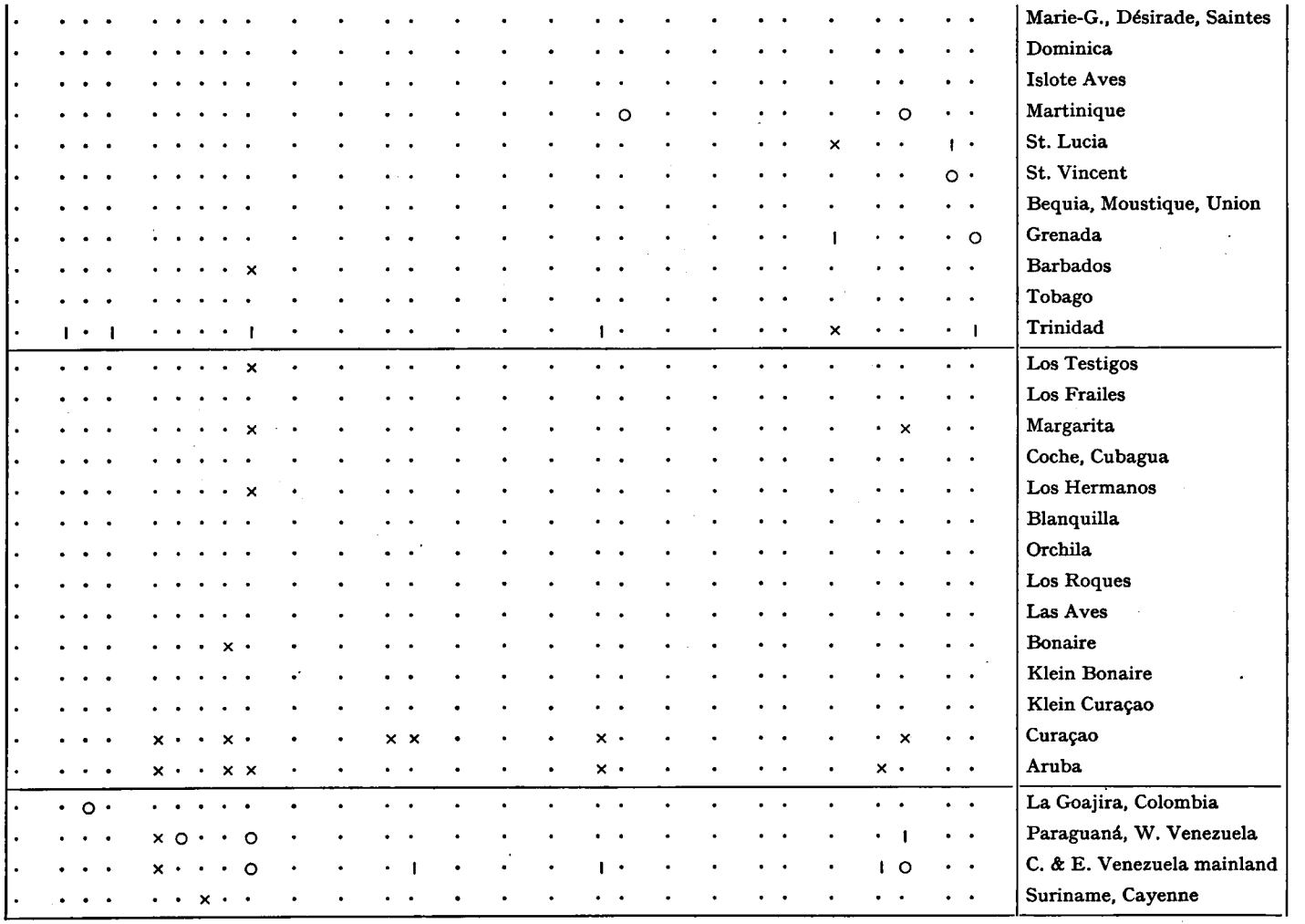
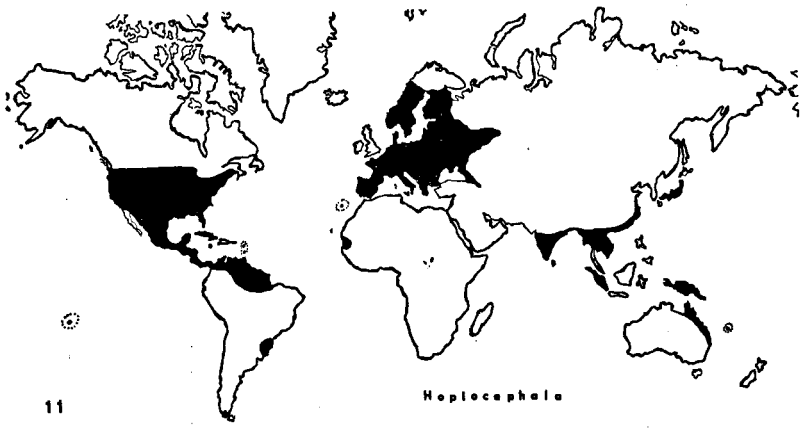

Marie-G., Désirade, Saintes
Dominica
Islote Aves
Martinique
St. Lucia
St. Vincent
Bequia, Moustique, Union
Grenada
Barbados
Tobago
Trinidad
Los Testigos
Los Frailes
Margarita
Coche, Cubagua
Los Hermanos
Blanquilla
Orchila
Los Roques
Las Aves
Bonaire
Klein Bonaire
Klein Curaçao
Curaçao
Aruba
La Goajira, Colombia
Paraguaná, W. Venezuela
C. & E. Venezuela mainland
Suriname, Cayenne



11 Hoplocephala

12 Zopherini

13 Opatrinus

The geographic distribution of all the Melasomes known from the West Indies (with exception of the two imported species) allows us to recognize the following zoogeographical categories (which correspond only to the present distribution and not to the origin of the taxa):

Endemic species	48	(75%)
Species of Antilles and South-America	10	(15.5%)
Species of Antilles and Central-America	1	(1.5%)
Species of Antilles and North-America	3	(4.5%)
Species of Antilles and Central & South America	2	(3.1%)

From this spectrum we can conclude that the Antillean Melasome Tenebrionids are represented not only by endemic elements but also by South-American colonizers, North-American elements and Central-South-American species. The purely Central-American element is almost absent (1.5%).

As far as the origin of Antillean Tenebrionids is concerned, we can note that practically the entire fauna consists of genera or tribuses whose present area of distribution corresponds to the category called by MAYR "pan-tropical" and by VANDEL "gondwanian". Following VANDEL, we can recognize the following categories:

1) GENERALIZED GONDWANIAN TYPE, represented by *Rhipidandrus*, *Pentaphyllus*, *Hoplocephala*, *Uloma*, *Strongylium*, *Doliema*, *Trachyscelis*, and by the tribuses Epitragini, Crypticini, Zopherini, Dysantini (Fig. 11–12).

All of these groups, with the exception of Epitragini and Zopherini, belong to the subfamily Tenebrioninae; they are winged and of primitive type, not characteristic of xerophilous zones, more often bound to hygrophilous environments. In general the tribuses are also winged.

Fig. 11–13. Distribution of: the genus *Hoplocephala*, the tribus Zopherini and the genus *Opatrinus*.

2) PARTIAL GONDWANIAN TYPE. Within this category we can recognize:

A) taxa present in the Antilles but also in Africa and Asia and in the Pacific Region, besides the Antilles: *Opatrinus, Anaedus, Trichoton, Lorelus, Lorelopsis, Diaperis, Phaleria* and the tribus Dacoderini (Fig. 13–15). All these genera belong to the subfamily Tene-

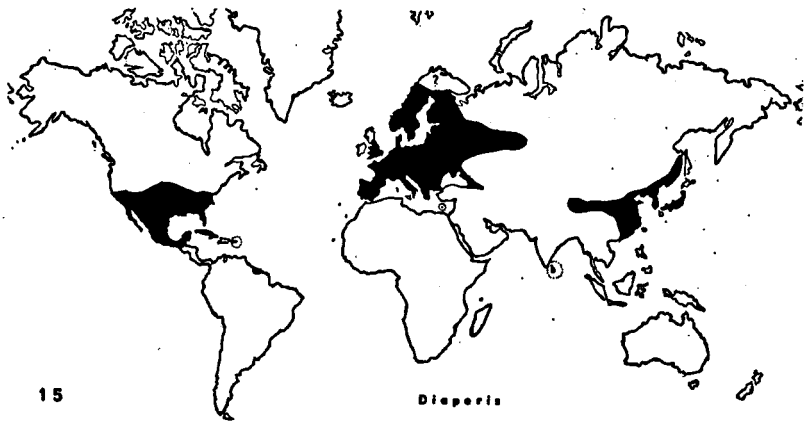


Fig. 14–15. Distribution of: the genus *Anaedus*, which possibly reached Yucatán when this was already disconnected from Cuba, and only recently colonized the Lesser Antilles from the south, *Diaperis*, more distributed in the northern hemisphere.

brioninae, and, with the exception of Dacoderini, they are often winged; only some species are bound to a xerophilous environment (*Opatrinus, Trichoton*).

B) taxa present exclusively in America. Within this group we can recognize:

a) Taxa present in North and South America, as *Dacoderus, Ammodonus, Gondwanocrypticus* and *Blapstinus*. This distribution corresponds to that called by MAYR "pan-american". They are only rarely present in xerophilous zones (*Blapstinus* and *Dacoderus*); they all belong to the Tenebrioninae, with the exception of *Dacoderus*. In the genus *Blapstinus* the formation of geographical subspecies can be observed. There are also some genera endemic to the Antilles, but with clear North-American affinities (*Cenophorus, Hummelinckia*). – These taxa probably migrated to North America during a period in which the Central-American land bridge existed (Lower Oligocene). Maybe the endemic genera can be dated back to that epoch. *Blapstinus* or a pre-blapstinoid form of Pedinini must have crossed very early, since the centre of formation of the genus seems to be California; this region possesses the greatest number of species, and from there the genus radiated in all directions, passing to South America during the Pleistocene, when again there was a Central-American land bridge. We should note that the apterous forms are more common in Venezuela and the winged, primitive forms in California.

b) Taxa present in South and Central America (and sometimes also in Florida): *Iccius, Ulosonia, Zophobas, Hesiodus, Isicerdes, Rhacinus, Tauroceras, Blapida, Antimachus, Talanus, Nautes, Epitragus* (up to Southern Mexico), and *Rhypasma*. – Very few of these are apterous (*Rhypasma*); in the xerophilous zone only *Epitragus* and *Rhypasma* are to be found. Some genera do not belong to the Tenebrioninae; the centre of formation of *Talanus* (and Talanini) will have been situated in Central America, that of *Nautes* possibly in Guatemala, that of *Blapida* in Brazil. In general they are relatively recent groups; only *Rhypasma* can be regarded as particularly old, though it has reached, from the south, only to Costa Rica.

c) Taxa present in the northernmost part of South America and in the Antilles: *Phymatestes, Meralius* and *Diastolinus. Diastolinus,*

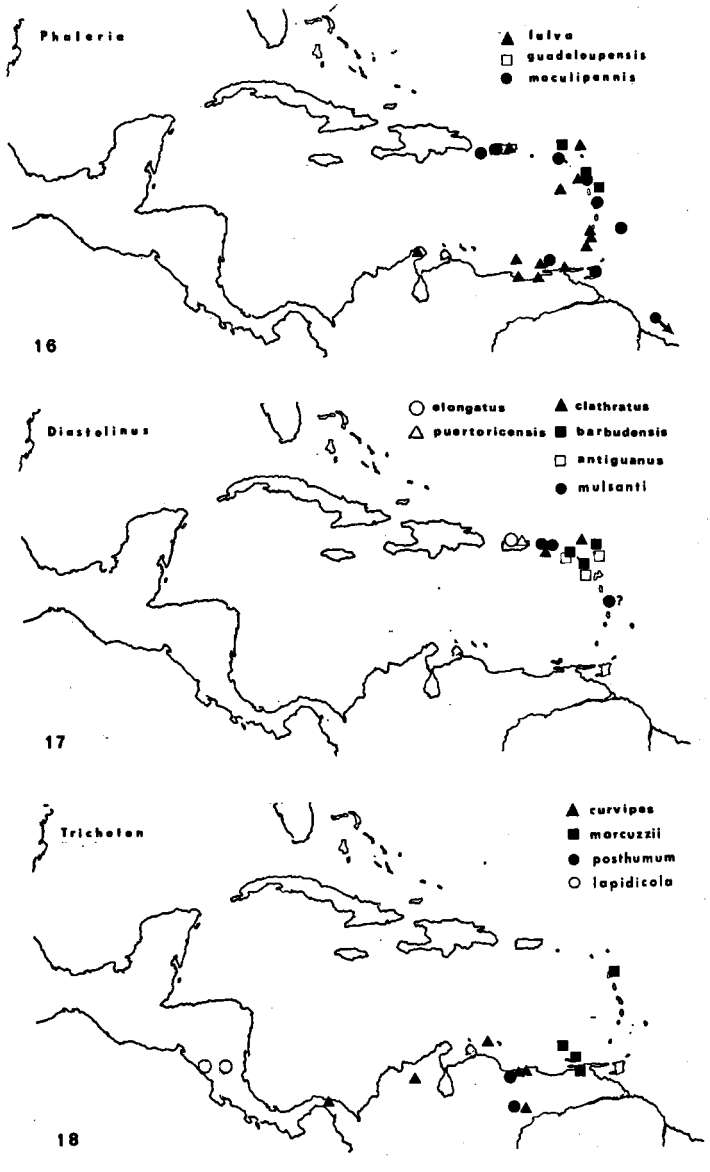


Fig. 16–18. Distribution of: three species of Antillean *Phaleria* which probably reached the Antilles from the south; some endemic species of Antillean *Diastolinus*; the Caribbean species of *Trichoton*.

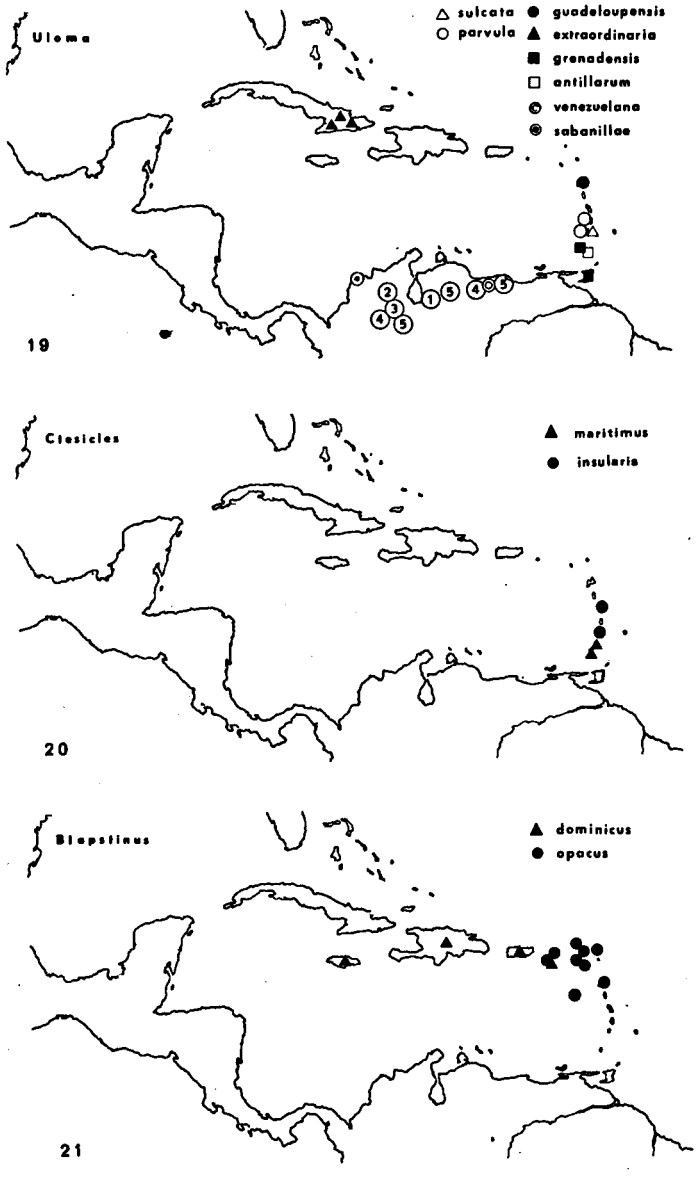


Fig. 19–21. Distribution of: the Antillean species of *Uloma* (with exception of the widely distributed species, *U. retusa*); the endemic genus *Ctesicles*; *Blapstinus dominicus* and *B. opacus* (note overlapping in St. Croix).


Epitragus roscidus
22


Epitragus aurulentus
23


Decoderus
Branchus
24

belonging to Tenebrioninae (Pedinini), must be very old, probably older than *Trientoma*, which evolved when "Paria" ("horstian" region according to CROIZAT) was united to the Antilles. After the separation of these two regions, *Diastolinus* developed into a southern group of species, inhabiting Colombia and Venezuela, and a northern, Antillean group. Both groups are rich in species, owing to the fragmentation and modification to which the respective territories have been subjected.

d) Taxa limited to the Antilles: *Menimopsis, Cnodalon, Cenophorus, Sellio, Platylus, Loxostethus, Ctesicles, Trientoma.* Only one genus does not belong to Tenebrioninae (*Trientoma*); most of them belong to "Melasomes" (5 out of 8) and at least 4 are apterous. This is one of the most important characteristics of an insular fauna. *Trientoma* must be particularly old, since it constitutes a tribus (Trientomini); the other genera have come into existence as a result of isolation of single islands or groups of islands (e.g. *Ctesicles*). In this particular case we could think of an origin from a South-American stock which reached the Lesser Antilles only recently (Plio-Pleistocene) and then isolated itself from the American continent.

e) Taxa exclusive to the Antilles and Central-America: *Mentes.*

f) Taxa exlusive to North America, Central America and the Antilles: tribus *Branchini.*

g) Taxa limited to the islands of the Leeward Group: *Tapinocomus, Stictoderia, Ecnomosternum* and *Hummelinckia.* The first three do not belong to the Tenebrioninae. *Tapinocomus, Stictoderia* and *Hummelinckia* are apterous. All four are characteristic of xerophilous environments, sometimes subdesertic, and eventually evolved during a xeric period (Late Miocene?). The most recent, less differentiated of some widely distributed genera of Epitragini is *Ecnomosternum*, still winged. *Tapinocomus* and *Stictoderia* are probably the most developed forms, apterous, both very plastic, and each represented

Fig. 22–24. Distribution of: *Epitragus roscidus* (= *exaratus*; arrow indication distribution towards Cayenne); *Epitragus aurulentis*; *Dacoderus* (as far as California), and *Branchus.*

by two species. More precisely, *Stictoderia* is represented by one species in statu nascendi (*gridellii*) and another (*subseriata*) extremely variable, so that we can think of a subspeciation still in action.

According to KHUDOLEY & MEYERHOFF (1971, p. 55), who have critically reviewed all previous knowledge on the geology of the Antillean region, the Greater Antilles correspond to an orthogeosyncline extended up to the Anegada trough. Nevertheless, St. Croix is part of the orthogeosyncline, though it is situated southeast of the trough. The Lesser Antilles, which did not develop until latest Cretaceous or earliest Tertiary times, are separated by the orthogeosyncline, but it is possible that a connection may be found between the Greater Antilles and the Lesser Antilles through the Aves Ridge.

Central and western Cuba, Jamaica, Puerto Rico and the Virgin Islands were tectonically isolated from Hispaniola after middle Eocene times. Most of the Greater Antilles emerged in Miocene and later times.

Faunal and floral similarities between Central America and the Greater Antilles suggest that direct land connections existed, perhaps via western Cuba or via the Cayman ridge and Nicaragua rise. Possibly this connection was in the form of fairly closely spaced island "stepping stones" (KHUDOLEY & MEYERHOFF 1971, p. 152).

From a purely biogeographic point of view, we can only suggest that some organisms reached the Greater Antilles via Yucatán, some via Nicaragua or British Honduras, and others via the Lesser Antilles.

From South America several Tenebrionid genera reached the Antilles in different epochs: e.g. *Phaleria, Diastolinus, Trichoton, Uloma* (species of the Lesser Antilles), *Ctesicles, Anaedus*, possibly the two closely allied species *Blapstinus opacus* and *B. punctatus* (of which the latter is present also on St. John and St. Thomas), *Opatrinus gemellatus* and lastly *Epitragus roscidus*. Several of these elements are still in course of speciation, as *Diastolinus, Blapstinus* and possibly *Trichoton*. Some genera, such as *Penichrus, Bothynocara, Tauroceropedus, Phymatestes* and *Goniadera*, have only been able to reach Trinidad.

From Central America the Antilles have been reached in different times by: *Diaperis maculata* (known from Guatemala), maybe the Cuban species of *Uloma* (*U. extraordinaria*, present only in the eastern part of that island), possibly the species of *Blapstinus* characteristic of the Greater Antilles, the tribus Zopherini (*Meralius*), *Opatrinus pullus* and the genus *Dacoderus*.

From North America the Antilles have been reached by *Blapstinus fortis*.

An element of which at present it is very difficult to say whether it came from North America (Florida) or Central America (Nicaragua) is *Branchus*, since it is known only from the Bahamas and Cuba.

Finally, according to the age of each island or island group (cf. MARCUZZI, 1962, p. 45) a varying number of endemics have evolved

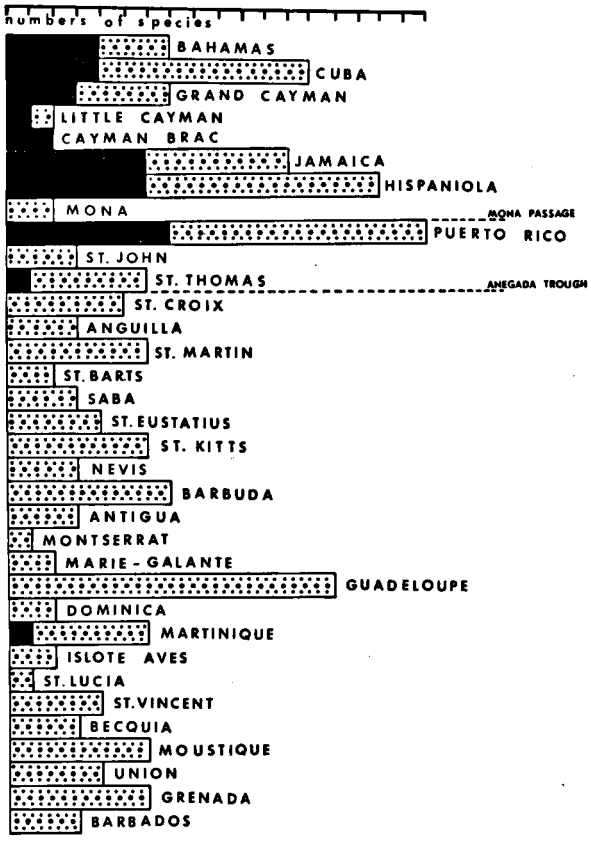


Fig. 25. Number of species (totals) and of endemics (in black) of Melasomes for each Caribbean island, excluding the Leeward Group of the Lesser Antilles.

on the Antillean arc, reaching the rank of genus, species or subspecies.

I think that VANDEL's (1972) conclusions, based on the zoogeography of terrestrial Isopods, that Cuba and probably the other Greater Antilles have separated from South America to direct themselves towards the North, bringing with them some original "passengers" from the Neotropical Region, is not only in disagreement with geological and geophysical data, but also with other biogeographical facts.

I consider more probable CROIZAT's view that some groups entered the Greater Antilles from Central America, some entered the Lesser Antilles from South America, in some instances going further westward to the Greater Antilles or/and Bahamas. Another stimulating concept is that of the "horstian" centres of dispersal of some Antillean organisms (CROIZAT 1958). It is difficult to say when the purely Antillean elements originated; but some of them must have come from southern elements thanks to the presence of corridors, filter

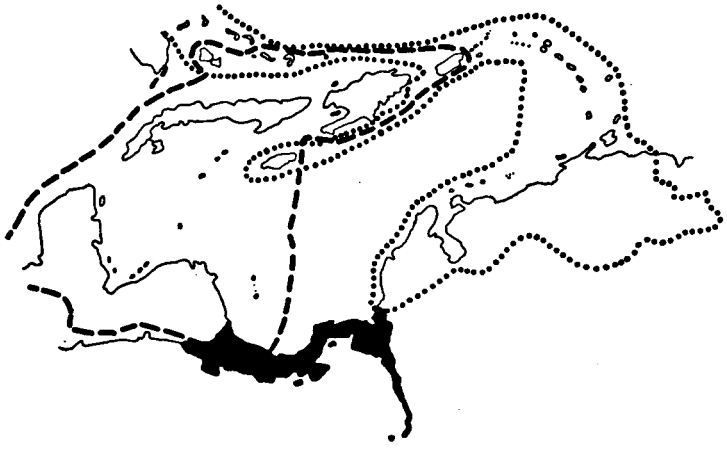


Fig. 26. Some rudiments of distribution in and around the Caribbean (from CROIZAT, 1958, I, fig. 88). The sector delimited by an interrupted line includes Central America and the Greater Antilles; the sector delimited by a dotted line includes the foci of distribution and speciation in Colombia, Venezuela, northern and eastern Brazil. The "neutral" sector between the southern limit of the nucleus of Central-America and the center of distribution of Colombia is indicated by black.

bridges, sweepstake routes and stepping stones well known to geologists and biogeographers, probably not very long ago, since the recent records of geology do not point towards a great antiquity of the Antillean arc. Geologists have serious doubts about the former existence of an Antillean continent. In biogeography we find no serious proofs of such a land. The distribution of the mollusk genera *Stoastomops, Cistulops, Tudora* and *Cerion* which is designated by HUMMELINCK (1940, p. 125) as a "northern, old element" in the fauna of the Leeward Group in my opinion, does not suggest an ancient migration route from the northern part of the Caribbean.

The Cayman Islands' Tenebrionid fauna shows *a*) some endemics of clearly Antillean origin, such as *Trientoma kochi*, several species of *Diastolinus* and *Phaleria caymanensis*, *b*) some elements of probably Central American origin, such as *Blapstinus* sp. prope *sulcipennis*, *c*) some species also occurring on the Bahamas and Cuba (*Blapstinus cubanus*), and finally *d*) some elements belonging to the Caribbean islands, reaching as far West as Grand Cayman (*Phaleria angustata*).

The Jamaican fauna possesses some elements which occur from Florida to Central America, belonging to the Western Caribbean area, such as: the genus *Branchus* (represented by the endemic species *jamaicensis*), some strict endemic species such as *Blapstinus kulzeri*, of not clear affinity, or *Phaleria jamaicensis*, possibly related to some North American Atlantic species. *Cyrtosoma jamaicensis* has probably a Central American origin, since it is extremely different from a species endemic to Cuba and does not exhibit signs of peculiar evolution. *Opatrinus* is represented by a species known so far only from Puerto Rico (*O. puertorocensis*) which, however, seems to be rather different from typical individuals.

All these data may point to colonization of both the Cayman Islands and Jamaica in different epochs and from different parts of the Antillean area.

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	1954		1959		1962		1977	
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– *caymanensis* Marcuzzi, 1977	—		—		—		12	I d–f
– *chevrolati* Marcuzzi, 1959	—		83	VI 5	—		12	
– *clathratus* (Fabricius, 1792)	—		—		27	I 1–3	13	
– *clavatus* Mulsant & Rey, 1859	—		—		—		13	
– *costipennis* Mulsant & Rey, 1859	—		—		27		—	
– *cubanus* Marcuzzi, 1962	—		—		30	II 5	—	
– *curtus curtus* Mulsant & Rey, 1859	8	II 6	83		—		13	
– *curtus goajirus* Marcuzzi, 1954	9	II 4	83		—		—	
– *dentipes* Marcuzzi, 1977	—		—		—		13	I g–i
– *diformis* Marcuzzi, 1977	—		—		—		14	II a–c
– *elongatus* Marcuzzi, 1977	—		—		—		15	
– *fairmairei* Marcuzzi, 1949	9	II 3	—		—		17	
– *hummelincki* Marcuzzi, 1949	9	II 1	—		—		—	
– *hummelincki* Marcuzzi, 1962 (= *mulsanti*)	—		—		28	III 4–6	—	
– *impressicollis* Fairm., 1892 (= *Penichrus*)	—		84		—		(31)	
– *inflatitibia* Marcuzzi, 1977	—		—		—		17	
– *margaritensis* Marcuzzi, 1949	9	II 2	—		—		18	
– *minor* Marcuzzi, 1977	—		—		—		18	II e–f
– *mulsanti* Marcuzzi, 1973 (= *humm.* '62)	—		—		(28	III 4–6)	19	
– *perforatus* (Sahlberg, 1823)	—		—		27	I 4–7	19	
– *puertoricensis* Marcuzzi, 1977	—		—		—		20	
– *puncticeps* (Mulsant & Rey, 1859)	—		—		30		—	
– *puncticollis* Mulsant & Rey, 1859	—		—		26	III 7–9	22	
– *sallei* Mulsant & Rey	—		—		25	III 1–3	22	
– sp.	10		—		—		—	
Platylus								
– *dilatatus* Fabricius, 1798, 1801	—		—		25		—	
Sellio								
– *coarctatus* Mulsant & Rey, 1859	—		—		31	IV-1	—	
– *tibidens* Quensel, 1806	—		—		31	IV-2	—	
Opatrinus								
– *gemellatus* (Olivier, 1795)	10	VI-3	—		31		22	
– *puertoricensis* Marcuzzi, 1977	—		—		—		23	I a
– *pullus* Sahlberg, 1823	—		—		32		—	
Ulus								
– *margaritensis* Marcuzzi, 1954	10	I 1–2	84		—		—	
– *venezuelensis* Marcuzzi, 1954	11	I 3	—		—		—	
Ctesicles								
– *insularis* Champion, 1896	—		—		—		25	
Blapstinus								
– *brunnipes* Marcuzzi, 1951	—		—		—		25	
– *buqueti* Champion, 1885	12	V 1–3	84		36		26	
– *cubanus* Marcuzzi, 1962	—		—		33	IV 4–5	26	III a–b
– *curassavicus* Marcuzzi, 1954	14	IV 1–2	85		—		26	

	1954		1959		1962		1977	
	Page	Plate	Page	Plate	Page	Plate	Page	Plate
– *dominicus* Marcuzzi, 1962	—		—		34	IV 6–7	27	
– *fortis* Le Conte, 1873	—		—		32	IV 3	27	
– *haitensis* Marcuzzi, 1962	—		—		34	IV 8	—	
– *humboldti* Marcuzzi, 1954	16	V 5	86		—		—	
– *hummelincki* Marcuzzi, 1954	17	IV 5	—		—		27	
– *jamaicensis* Marcuzzi, 1962	—		—		35	IV 9	—	
– *kulzeri* Marcuzzi, 1977	—		—		—		28	III c
– *margaritensis* Marcuzzi, 1951	13	V 6	85		—		—	
– *opacus opacus* Mulsant & Rey, 1859	—		—		36	IV 11–12	29	
– *opacus martinensis* Marcuzzi, 1977	—		—		—		29	II g
– *orchilensis orchilensis* Marcuzzi, 1951	14	V 7	—		—		—	
– *orchilensis occidentalis* Marcuzzi, 1954	15	V 8–9	86		—		30	
– *paraguanae* Marcuzzi, 1951	13	IV 3	85		—		—	
– *pseudoaeneus* Fairmaire, 1892	13		85		—		—	
– *punctatus* (Fabricius, 1792)	—		—		36		30	
– *relictus* Marcuzzi, 1951	13	V 4	—		—		—	
– *simulans simulans* Marcuzzi, 1954	15	IV 4	—		—		30	
– *simulans barbadensis* Marcuzzi, 1962	—		—		36	II 6	—	
– prope *sulcipennis* Champion, 1893	—		—		—		31	III d–f
Austrocaribius								
– *venezuelensis* Marcuzzi, 1954	18	IV 6–7	—		—		—	
Hummelinckia								
– *caraibica* Marcuzzi, 1954	19	VII 2	—		—		—	
Penichrus								
– *impressicollis* (Fairmaire, 1892)	—		(84)		—		31	
Trichoton								
– *curvipes* Champion, 1885	—		86		—		33	
– *lapidicola* Champion, 1885 (= *marc.*)	21	VII 4	—		—		(33)	
– *marcuzzi* Kulzer, 1961	(21)	(VII 4)	—		—		33	
Ammodonus								
– *cayennensis* (Champion, 1886)	—		86		—		—	
– *ciliatus* (Champion, 1896)	22		—		—		—	
Trichotoides								
– *hintoni* (Kaszab, 1949)	23	VII 5–6	—		—		33	
Phaleria								
– *angustata* Chevrolat, 1878	25		—		38		34	
– *caymanensis* Marcuzzi, 1977	—		—		—		34	III g–h
– *chevrolati* Fleut. & Sallée, 1889	25		—		—		35	
– *fulva* Fleut. & Sallée, 1889	25		—		37	V 1–2	35	
– *guadeloupensis* Fleut. & Sallée, 1889	—		—		—		36	
– *jamaicensis* Marcuzzi, 1977	—		—		—		36	III i
– *maculipennis* Marcuzzi, 1962	—		—		37	V 5–10	36	
– *punctipes* LeConte, 1878	—		—		—		37	
– sp. (= *maculipennis*)	25		—		—		—	
Microcrypticus								
– *scriptipennis* (Fairmaire, 1875)	—		—		—		37	

	1954		1959		1962		1977	
	Page	Plate	Page	Plate	Page	Plate	Page	Plate
Platydema								
– spp.	26		87		—		38	
Palembus								
– *ocularis* Casey, 1891	—		—		—		38	
Uloma								
– *grenadensis* Champion, 1896	26		—		—		—	
– *parvula* Champion, 1896	—		—		—		38	
Tribolium								
– *casteneum* (Herbst, 1797)	26	II 5	87		—		38	
– *confusum* Jacquelin du Val, 1868	—		87		—		—	
Alegoria								
– *dilatata* Laporte, 1840	26		—		—		39	
Trachyscelis								
– *flavipes* Melsheimer, 1846	—		—		—		39	
– sp.	—		—		38		—	
Hoplocephala								
– *cornigera* Fabricius, 1781	—		—		38		—	
Iccius								
– *cephalotus* Champion, 1886	—		—		38		—	
Alphitobius								
– *diaperinus* (Panzer, 1797)	—		—		—		39	
– *laevigatus* (Fabricius, 1781)	26		—		38		39	
Hypophloeus								
– *rufipes* Fabricius, 1801	—		—		38		—	
Rhipidandrus								
– *cornutus* Arrow, 1904?	—		—		—		40	
Diaperis								
– *maculata* (Olivier, 1791)	—		—		—		41	
Ulosonia								
– *biimpressa* (Latreille, 1833)	—		—		—		41	
– *tricornis* Laporte, 1840	26		—		—		—	
Metulosonia								
– sp.	—		—		—		41	
Sitophagus								
– *hololeptoides* (Castelnau, 1840)	—		—		—		41	
Zophobas								
– *atratus* (Fabricius, 1775)	27	VI 2	90		—		41	
– *batavorum* Marcuzzi, 1959	—		88	VI 4	—		42	
– *laticollis* Motschulsky, 1872	—		90		—		—	
– *paraguanae* Marcuzzi, 1959	—		87	VI 3	—		—	
– *rugipes* Kirsch, 1866	27		87		39	VI 2, 7	42	
– sp. (= *batavorum*)	27	VI 1	—		—		—	
Nautes								
– cfr. *asperipennis* Allard, 1894	—		—		39	VI 8	—	
– cfr. *fervidus* Pascoe, 1866	—		—		39	VI 6	—	

	1954		1959		1962		1977	
	Page	Plate	Page	Plate	Page	Plate	Page	Plate
Isicerdes								
– sp.	27		—		—		—	
Phymatestes								
– sp.	27		—		—		—	
Anaedus								
– sp.	27		—		—		—	
Pyanisia								
– *nebulosa* (Fabricius, 1781)	27		—		—		—	
Strongylium								
– *amethystinum* Guérin, 1838	—		—		39	VI 3	—	
– cfr. *curticorne* Champion, 1888	—		—		39	VI 1	—	
– cfr. *costaricense* Champion, 1888	—		91	VI 2	—		—	
– *permodicum* Mäklin, 1864	—		91	VI 1	—		—	
Cyrtosoma jamaicensis Marcuzzi, 1977	—		—		—		42	II h

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VOLUME LII

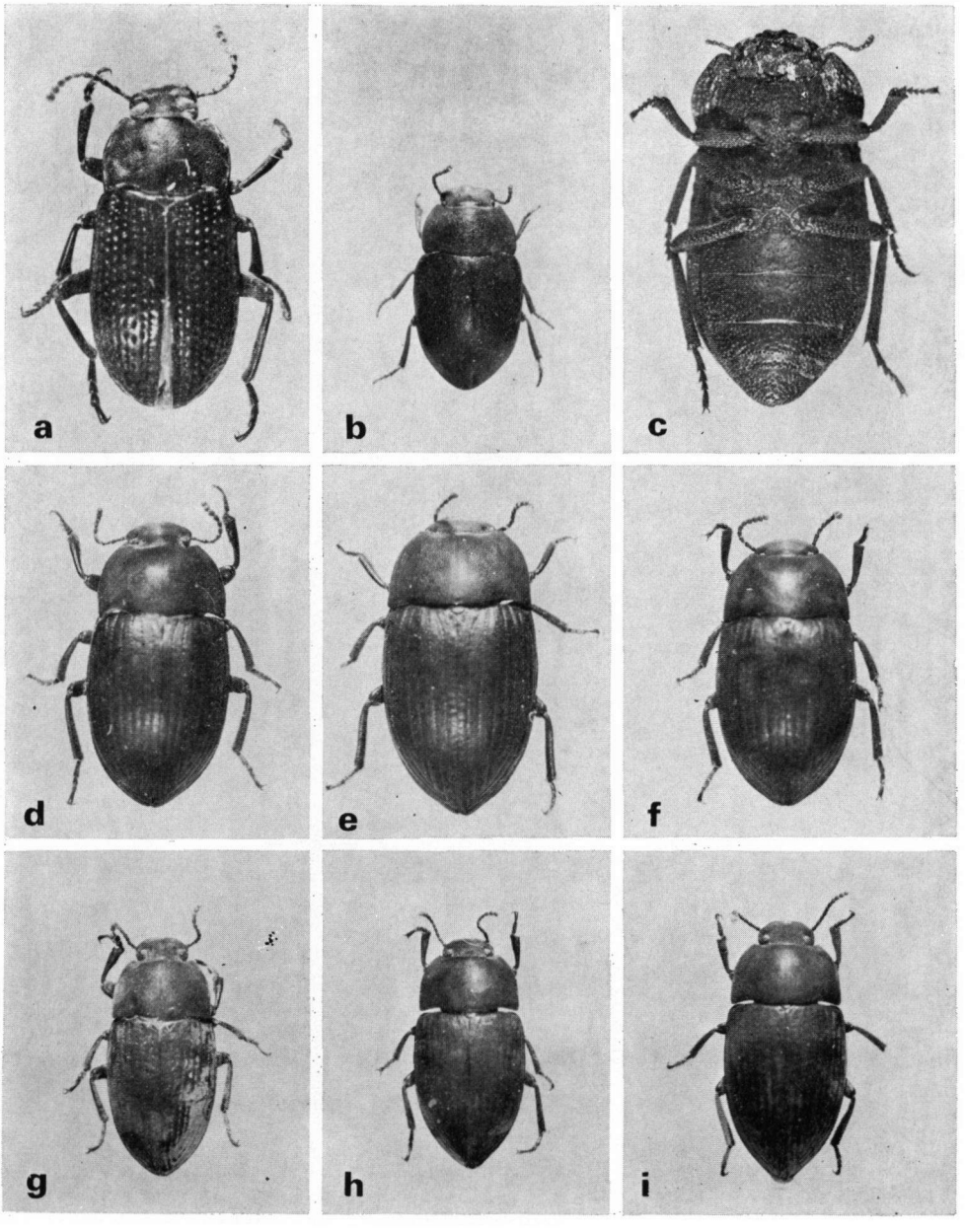
FURTHER STUDIES ON CARIBBEAN TENEBRIONID BEETLES

by

G. MARCUZZI

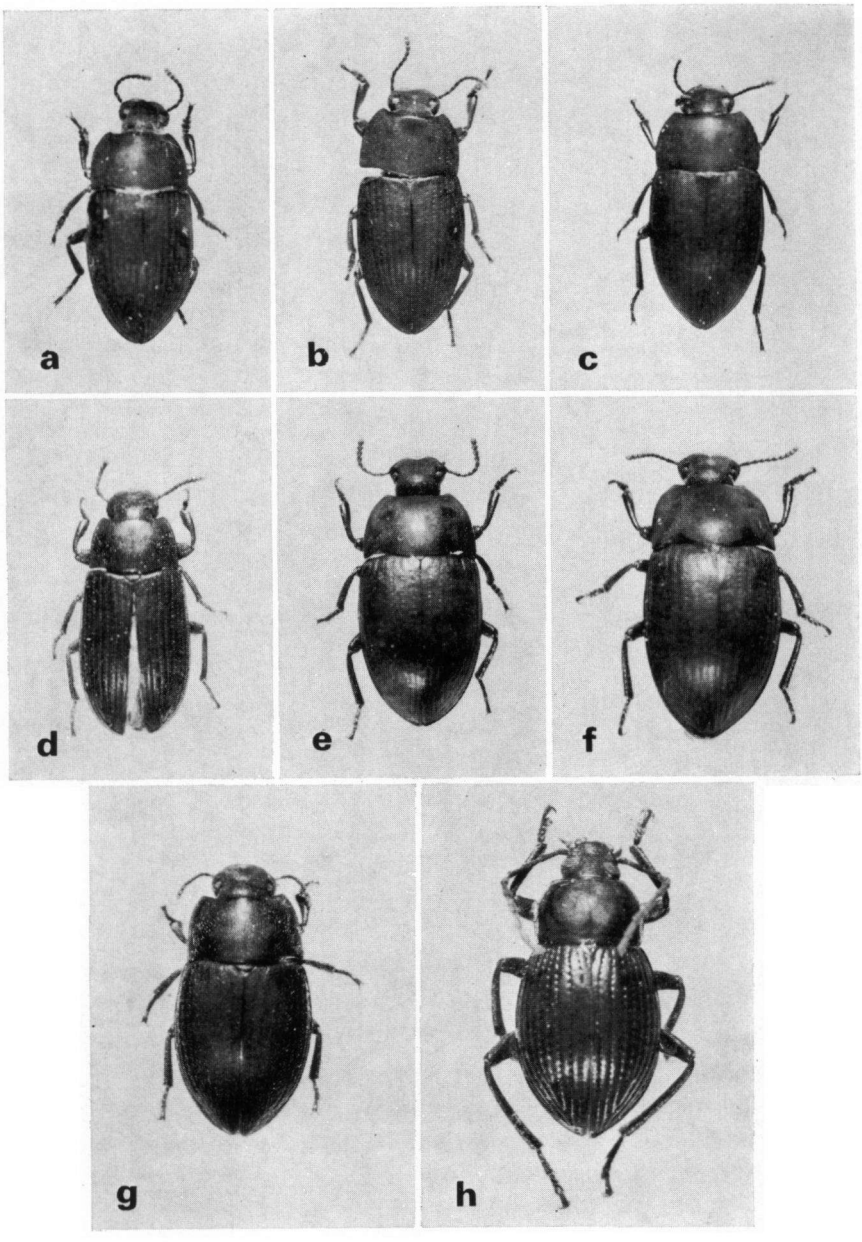
REPLACEMENT PAGE

In the original edition the illustrations of Plate I and II have erroneously been interchanged. The captions are correct.



I. — a: *Opatrinus puertoricensis* n. sp., JAMAICA, Mona (Sta. 016), 6.V.1973. — b: *Trientoma kochii* n. sp., CAYMAN BRAC, South East Bay (s.n.), 30.V.1973. Holotype — c: *Branchus jamaicensis* n. sp., JAMAICA, Hellshire Hills (Sta. 011), 8.V.1973. Holotype. — d–f: *Diastolinus caymanensis* n.sp., CAYMAN BRAC; d, Stake Bay (Sta 001), 1.VI.1973, ♂; e, Tibbett's Turn (Sta. 003), 29.V.1973, ♂; f, the same, ♀. — g–i *Diastolinus dentipes* n. sp., GRAND CAYMAN, South Sound Road (Sta. 961), 20.V. 1973; g, ♂; h, ♀.

PLATE II



II. — *Diastolinus diformis* n. sp., GRAND CAYMAN; a–b: Walkers Road (Sta. 959), 20.V.1973; a, ♂; c, Water Ground (Sta. 979), 18.V.1973, ♀. — d: *Diastolinus inflatitibia* n. sp., JAMAICA, Arawak Museum (Sta. 012), 11.V.1973. — e–f: *Diastolinus minor* n. sp., LITTLE CAYMAN, Callabash Spot (Sta. 987), 5.VI.1973; e, ♀; f, ♂. — g: *Blapstinus opacus martinensis* n. subsp., ST. MARTIN, Grande Case (Sta. 057), 22.VI. 1973, ♀. — h: *Cyrtosoma jamaicensis* n. sp., JAMAICA, Arawak Museum (Sta. 012), 11.V.1973. Holotype.