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NEW SPECIES (HETEROP-
TERA, PENTATOMIDAE,
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INTRODUCTION

AMONG THE MANY discocephaline pentatomid genera, *Antiteuchus* Dallas presents some interesting and challenging problems in phylogeny, probably because it currently contains more known species than any other genus in the subfamily.

The studies that have been made seem to indicate that the genus is divisible into natural groups of species. At present no new subgeneric names are being given to these groups, although they may well merit such status. The literature is already replete with confusing nomenclature, and it is deemed unwise to compound the confusion.

Differences found in the component parts of the external genitalia have long been considered important diagnostic characters for the identification of insects at the species level, particularly males. In *Antiteuchus* the females show only subtle differences in the forms of the genital plates; it becomes difficult, if not impossible, to segregate the species on such a basis alone. On the other hand, the males exhibit considerable diversity in the composition of the pygofer, and a number of different patterns can be recognized. Part of the purpose of the present paper is to describe and figure for the first time the basic patterns of the male genitalia of this genus, and to show lines of modification of them that are involved in speciation and that will allow the student to place the species in better phylogenetic perspective than has hitherto been possible. Unfortunately the males of some species are unknown, or known only from unavailable type specimens.

Investigation into geographic distribution and speciation within this genus shows a number of apparent gaps. Whether or not these will ever be filled depends, in large measure, on the extent and thoroughness of future collecting in Neotropical territory and the discovery of new species.

ACKNOWLEDGMENTS

It is my great privilege to dedicate this work to Dr. William Edward China, C.B.E., eminent hemipterist of the British Museum (Natural History).

I wish to extend my sincere thanks to the numerous entomologists whose repeated cooperative help has made possible a better understanding of the taxonomic problems involved in this study. I owe a debt of gratitude to Mr. R. J. Izzard, British Museum (Natural History); Mr. Ernest Taylor, Hope Department of Entomology, Oxford University; Dr. Anker Nielsen, University Zoological Museum, Copenhagen; Dr. G. Freude, Entomological State Collections, Munich; Prof. Dr. Hans Sachtleben, German Entomological Museum, Berlin; Prof. Belindo A. Torres, National University of La Plata, Argentina; Dr. José Carvalho, National Museum, Rio de Janeiro, Brazil; and Dr. Richard C. Froeschner, United States National Museum of the Smithsonian Institution, Washington.

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DRAWINGS AND MEASUREMENTS

Many of the line drawings were made by the author with the aid of a camera lucida. Every effort was made to maintain the same magnification for homologous parts so that comparative differences could be shown.

The drawings of the male genital segments (pygofer) show only the right half of these organs, with the right paramere removed; the latter is shown adjacent at a higher magnification.

Throughout the study all measurements were carefully made with a micrometer scale, so that proportions of the body could be accurately recorded. In the descriptions of new species the ratios given are dimensions measured through a binocular microscope, with the use of a $\times 2$ objective and a $\times 9$ ocular fitted with a micrometer scale divided into 200 linear units; they are not in terms of millimeters except as stated for types.

In all instances the pronotum was measured along its median line for length, and across its humeri for width. The length of the scutellum was measured along its median line.

DEFINITIONS

Certain terms that are repeatedly used in this paper are defined, so that there can be no ambiguity in their meaning and in order to distinguish them from the same word or words frequently used by various previous workers but with different implications or meanings.

DECLIVOUS: Applied to a surface, or axis, or margin that gradually slopes or curves downward.

DEFLEXED: Applied to a surface, or axis, or margin that is abruptly bent downward, frequently at a right angle.

EMBOLIUM: The exocorium; that portion of the hemelytron lying laterad of the main vein; the differentiated costal portion of the corium.

EVAPORATORIUM: The matte portion of the metapleural disc which acts as the evaporating surface for the discharge from the scent gland. In some instances a small portion of evaporating area extends onto the posterior portion of the mesopleural surface as well.

METAPLEURAL ORIFICE: The orifice of the scent gland that opens on the evaporatorium; frequently termed the metasternal orifice by various authors.

THORACIC PLEURA: The bilateral, ventral portions of the three parts of the thorax, i.e., the propleura, the mesopleura, and the metapleura, that extend from the coxae to the lateral margins of the body.

THORACIC STERNA: The unpaired, median ventral area of the three parts of the thorax, i.e., the prosternum, the mesosternum, and the metasternum, that lie between the coxae.

In the Pentatomidae there is no suture separating the sternal and pleural areas of the thorax; hence the demarcation of the limits of these two sections is purely arbitrary. Some previous authors have used the term metasternum or metastethium to designate the portion of the metathorax herein called the metapleuron.

RETROSE: Applied to a lobe or process that is directed posteriorly.

PYGOFER: the male external genital complex, consisting of highly modified somites VIII, IX, and X; also written as "pygophore"; also called the "hypopygium."

PROCTIGER: The anal tube; the modified tenth somite.

QUASIARTICULATION: Applied to the joint at the bases of the lateral apical lobes of the pygofer which are partially or incompletely articulated to the genital capsule.

XYPHUS: The narrowed posterior or apical extension of the mesosternum that abuts on the anterior margin of the metasternum.

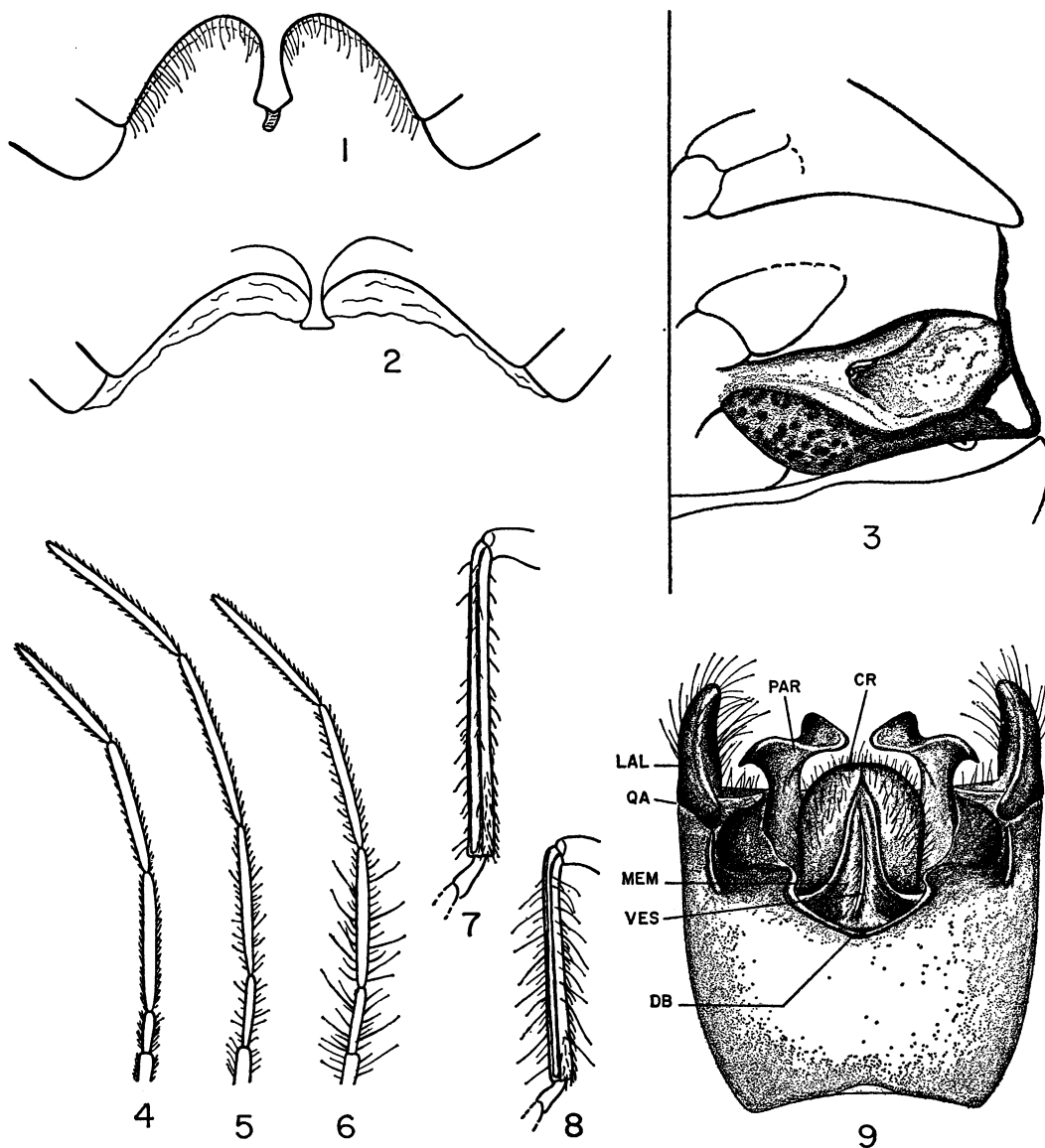
SPECIAL MORPHOLOGY

TERMINAL ABDOMINAL TERGITE IN THE MALE

Figures 1, 2

The males of *Antiteuchus* interestingly provide us with highly satisfactory diagnostic characters in addition to those found in the external genitalia. In a recent paper (Ruckes, 1961) *Antiteuchus* was shown to be distinct from an allied genus, *Mecistorhinus* Dallas, by the presence in the former of a median retrorse process or posteriorly directed lobe arising from the apical margin of the terminal abdominal tergite. Usually this process extends over the genital segment (pygofer), frequently appressed to its surface, and follows its curvature, in which case the process then is somewhat declivous, certainly ventrally arcuate. But in some species it protrudes backward, without a downward curvature, and in others it is reduced to a mere liplike obtuse lobe, and in one species barely exceeds the apical tergal margin. What the function of such a process is has as yet not been determined. In some cases it appears to hold the pygofer loosely in place when the individual is not in coitus. Such cannot, however, be its function in all species, especially in those in which it is either much reduced in length or in which it extends directly backward into space, making no physical contact with the genital segment whatsoever. It may be merely a secondary sexual character and in no way associated functionally with the genitalia or copulatory activity. The process assumes many different forms, but its form is always constant for any given species. Thus, used by itself as a character, species can be differentiated, but it becomes doubly valuable for this purpose when used in conjunction with the differences shown in the respective genital structures.

In one group of species the extreme margin of the tergite has a fringe (in some cases re-



FIGS. 1, 2. Apical margin of seventh tergite in male. 1. *A. panamensis*. 2. *A. tessellatus*.

FIG. 3. Callosity on metapleuron, *A. peruensis*.

FIG. 4. Antennal setulae, *A. mixtus*.

FIG. 5. Antennal setae, *A. tripterus*.

FIG. 6. Antennal hairs, *A. panamensis*.

FIG. 7. Tibial setae, *A. variolosus*.

FIG. 8. Tibial hairs, *A. tripterus*.

FIG. 9. Pygofer, *A. tripterus*. Abbreviations: CR, crest of proctiger; DB, dorsal border of capsule; LAL, lateral apical lobes; MEM, membrane of proctiger; PAR, paramere; QA, quasi-articulation; VES, vesica visible through membrane of proctiger.

duced to lateral tufts) of either short or long hairs and a very insignificant, transverse, in some instances obsolescent, membrane (fig. 1). In another group of species the margin lacks a fringe of hairs but has a very prominent, wide, transverse, wrinkled membrane that extends from one lateral end of the margin to the other (fig. 2). These two groups of species apparently form two natural entities, since the presence or absence of hairs and membranes is associated with two different types of pygofers and other somatic characters, in a sort of linkage phenomenon that is more or less constant in the respective groups. The associated somatic characters concern the presence or absence of callosities on the metapleura and the presence or absence of setae and hairs on the antennae and tibiae.

CALLOSITIES ON THE METAPLEURA

Figure 3

In that group of species in which the extreme margin of the terminal abdominal tergite has a fringe, or tufts, of hairs and a relatively insignificant or obsolescent transverse membrane, the posterior lateral corner of each metapleuron, just behind the evaporatorium, usually lacks a conspicuous, flavescent callosity. Only two species, herein newly described, form an exception to this rule. The area specified may show some surface irregularity, and laevigate points may be present, but ordinarily there is no distinctly raised flavescent callus there.

On the other hand, in that group of species in which the extreme margin of the tergite lacks a fringe of hairs but has a wide, transverse membrane, the metapleuron in every case has a prominent flavescent callosity in its posterior lateral corner just behind the evaporatorium (fig. 3). Like many other characters, this calloused spot varies in size, but in some degree or other it is universally present and is usually quite prominent.

Of the numerous specimens of *Antiteuchus* (*Neodine*) *macraspis* (Perty) that have been examined, a small percentage show a distinctly calloused area on the lateral and anterior margin of the evaporatorium; this laevigate area, however, does not extend onto the posterior lateral corner of the metapleural plate to form a callosity there. In this subgenus (*Neodine*) the apical tergal margin

has lateral tufts of hairs and a very poorly developed transverse membrane (fig. 13).

Thus the presence or absence of callosities of this sort is apparently linked with the presence or absence of marginal hairs or marginal membranes on the terminal abdominal tergite. As is shown below, a corresponding linkage apparently occurs between the presence of these callosities and definite patterns of the pygofers.

ANTENNAL SETULAE, SETAE, AND HAIRS

Figures 4-6

Except in a few instances the setose condition of the antennal segments has not been mentioned in previous descriptions of species in this genus. A study of these bristle-like structures shows that some diagnostic value can be assigned to them, and that their different degrees of size and regional distribution are linked with different types of tergal margins and the presence or absence of the callosities above mentioned.

I wish to distinguish between the terms "setulae," "setae," and "hairs."

Setulae, in this diagnosis, are construed as being very minute, barely visible bristles which are normally appressed to the surface of the antennal segments (fig. 4).

Setae are distinctly longer than the setulae and are found erect or suberect, standing out somewhat from the segmental surfaces (fig. 5). Neither setulae nor setae are ever so long as the diameter of the segment to which they are attached, although in a few cases some setae appear to approach that length.

Hairs, on the other hand, are attenuated setal structures, much longer and slightly thinner than normal setae, are in every case found erect, and are at least as long as the diameter of the antennal segment to which they are attached, and frequently two or three times as long (fig. 6). In the figures referred to above, only the lateral bristles are shown; it must be understood that these structures completely encircle the segments.

The basal three antennal segments differ from the terminal two in that, no matter which kind of setigerous condition exists, the setulae, setae, or hairs on the basal three segments are in every case more prominent and distinct than those on the apical two, and in

cases in which the bristles are appressed to the segmental surfaces they are less so on the basal segments than on the terminal ones.

In the species *mixtus* (Fabricius), *variolosus* (Westwood), *marmoreus* (Spinola), *piceus* (Palisot de Beauvois), *fuscus* (Ruckes), and at least two others, herein described, the antennae are all finely setulose (fig. 4); the setulae on the basal segments of *piceus* and *fuscus* in some cases are a little more prominent than in other species. All these species are large, quite convex, usually coarsely punctured and pitted, and all have a fringe or tufts of hair on the apical tergal margin in the male but lack a wide, prominent transverse membrane there. They apparently form one natural grouping of species.

In the species *sepulcralis* (Fabricius), *tripterus* (Fabricius), *melanoleucus* (Westwood), *panamensis* (Ruckes), and several others, herein described, the terminal two antennal segments are still setulose, but the setulae are much less appressed to the surfaces of the segments than in the preceding cases. The basal three segments, however, have distinctly semi-erect, and in many instances erect, setae that approach the diameter of the segment from which they arise (fig. 5). In the case of *panamensis* (fig. 6) and an allied species, herein described as new, the basal three segments possess, in addition to the normal erect setae, many interspersed, long, hairlike setal structures (hairs) that are distinctly longer than the diameter of the segment to which they are attached, which gives a peculiar hirsute effect to the proximal portion of the antennae. These species are only mildly convex, or even subdepressed, intermediate or small in size, finely punctured, the males have a fringe of hairs and only an obsolescent membrane on the apical margin of the terminal tergal segment, and the metapleural plates lack a flavescent callosity in the posterior lateral corners behind the evaporatoria.

In an entirely new complex of species, including *tesselatus* (Westwood), *amplus* (Walker), *marmoratus* (Erichson), as well as some nine new ones herein described, the setigerous condition of the antennae is like that found in the category first mentioned above, i.e., the antennae are setulose, with the setulae on the basal three segments less

appressed than those on the terminal two. These species are intermediate in size, very mildly convex to subdepressed, and finely punctured; the apical tergal margin in the male has a broad transverse membrane but lacks a fringe of hairs, and the metapleural plates in every instance have a flavescent calloused spot in the posterior lateral corners. These apparently form a third natural group of species.

TIBIAL SETAE AND HAIRS

Figures 7, 8

The tibiae of all species bear erect or nearly erect setae on the lateral surfaces just below the dorsal or sulcal margins; in no case are such setae longer than the diameter of the tibia at the point from which they arise. In one complex, however, those of the second category mentioned above in the section on antennal setae (i.e., *sepulcralis*, *tripterus*, and others), thin hairs are found which are distinctly longer than the diameter of the segment. These are interspersed between the normal setae and are usually just as abundant, thus producing a clear-cut hirsute appearance. Indeed in these species both the femora and the tarsi, as well as the tibiae, have similar long hairs.

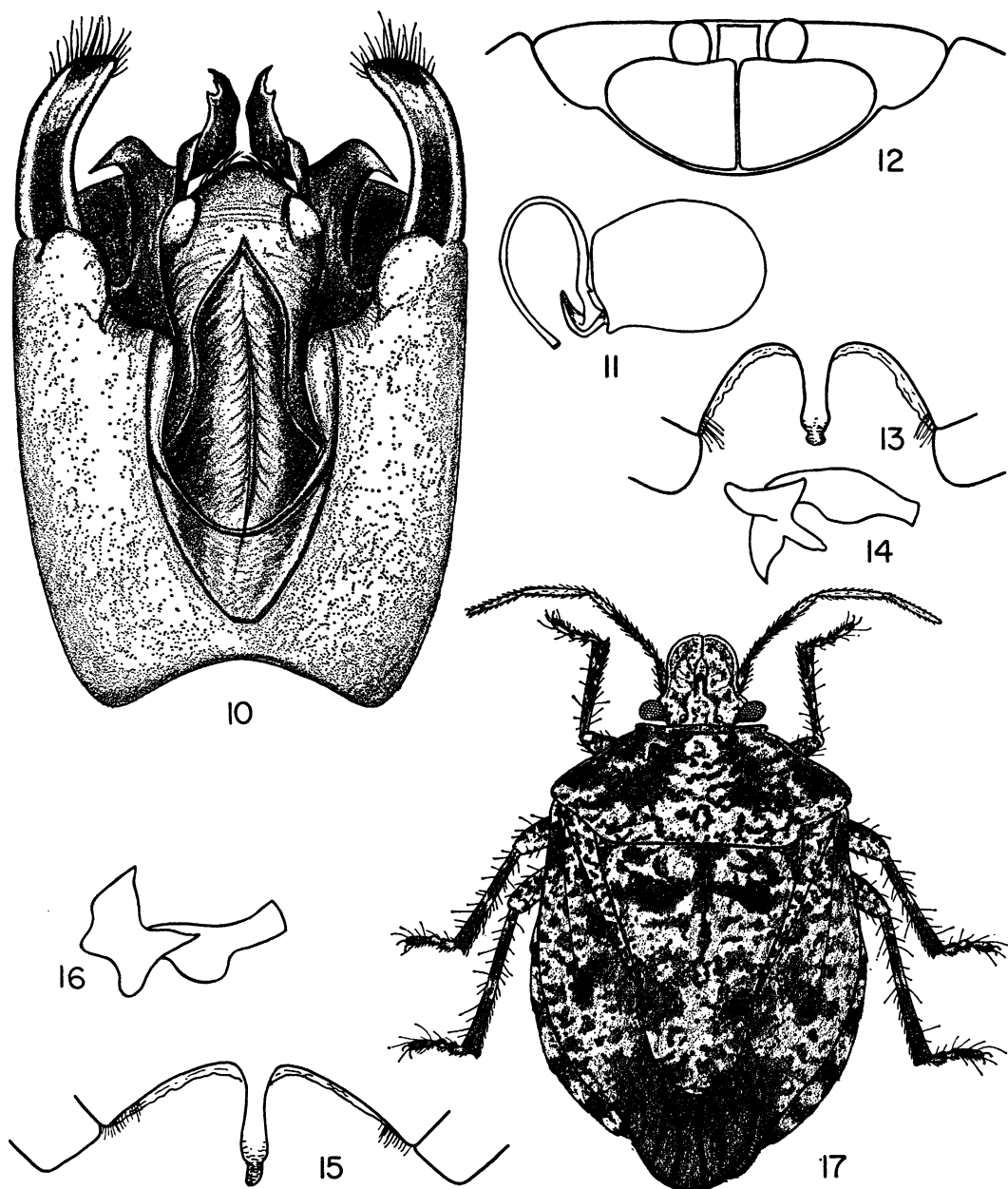
In specimens that have been repeatedly handled, or are found in old, poorly preserved collections, the setae, especially the longer hair-like ones on the legs and antennae, are frequently rubbed off and may be difficult to see or identify. Freshly captured examples, of course, show these characters to perfection.

MALE GENITAL SEGMENT OR PYGOFER

Figures 9-11

In terms of somatic metameres, the homologies of the component parts of both the male and female external genitalia have already been established by many previous workers. For the purpose of this paper, the results of such investigations are unimportant and are here excluded. Suffice it to say that the several structures that comprise the genitalia are derived from highly modified portions of abdominal somites VIII, IX, and X.

In *Antiteuchus* the pygofer is usually ovate

FIG. 10. Pygofer, *A. nebulosus*.FIG. 11. Aedeagus, *A. mixtus*.FIG. 12. External female genitalia, *A. variolosus*.FIG. 13. Apical margin of seventh tergite in male, *A. (Neodine) macraspis*.FIG. 14. Right paramere, *A. (Neodine) macraspis*.FIG. 15. Apical margin of seventh tergite in male, *A. radians*.FIG. 16. Right paramere, *A. radians*.FIG. 17. Facies of *A. variolosus*.

or nearly so. It is divided into two parts: (1) the proximal subglobular portion known as the capsule, which contains the internal connections of the proctiger, aedeagus, and parameres together with their associated extensor and retractor muscles, and (2) the genital cup, the exposed, external, bowl-shaped concavity in which the major portion of the proctiger and the heads of the parameres are visible; the aedeagus is partially obscured within the cup, being covered over by the proctiger. The two parts are separated from each other by a vertical, or nearly vertical, sclerotized diaphragm, through which the above-mentioned organs pass from the capsule into the cup.

Attached to the lateral apical corners of the capsule and at the lateral ends of the cup are bilateral, posteriorly projecting, finger-like lobes or processes, herein called the lateral apical lobes. At their basal area, where they arise from the body of the segment, they show evidence of a partial articulation, or at least a distinct fold in the sclerotized wall, which apparently allows a limited amount of movement on the part of the lobes. This partial articulation has been called quasiarticulation to imply incompleteness of the suture. In different species these lobes differ in form, in length, in width, in degree of curvature, and in the nature of their apices, and may play an important role in species differentiation.

The dorsal margin of the capsule just above the base of the proctiger is called the dorsal border and forms the dorsal anterior limit of the genital cup. The central portion of this border is excavated or sinuate in different degrees in different species, in some being shallowly emarginate there, in others deeply so, and thus becomes an additional good diagnostic character. The ventral apical margin is the transverse ventral edge of the capsule below the genital cup and extends between the lateral apical lobes. It is neither abruptly reflexed nor posteriorly extended into a lip-like lobe. The genital cup remains widely open, and its contents are visible from all sides. The ventral apical margin is subtended by a submarginal impression on the ventral wall of the capsule itself, which, like other features, varies in form, depth, and width in different species.

The proctiger, or anal tube, is the external

continuation of the internal rectum. In *Antiteuchus*, unlike other genera of the discocephalines, it is only partially sclerotized, its relatively wide dorsal median portion remaining membranous, indeed so thinly so that the underlying portion of the aedeagus, called the vesica, is visible when viewed from above. The proctiger varies in form, in some cases being subglobular, in other cases cylindrical, or even partially prismatic. In all instances the basal or proximal portion of it lies horizontally in the center of the cup, and then, a little beyond its middle, becomes abruptly bent downward or deflexed (in some cases only declivous), so that its apical or posterior face is vertical (or nearly so) in position and the anal aperture opens ventrally, invisible *in situ* except when the proctiger is naturally elevated in the act of defecation. The region where the abrupt bending occurs is herein called the crest; this area may be merely tumid or in certain species adorned with a prominent pair of tubercles or stubby lobules. The posterior or vertical face may be convex, flattish, or even feebly concave, and in form may range from suborbicular to distinctly trapezoidal.

Each paramere, or clasper, consists of a nearly horizontal arm contained in the capsule and to the basal end of which are attached strong, fan-shaped extensor and retractor muscles. The remaining portion of the arm passes through the diaphragm into the genital cup and there usually curves gently upward and ends in an explanate head. The arm is frequently swollen along its ventral margin near its midpoint and in some cases assumes an almost clavate form. The head faces posteriorly or somewhat obliquely to the exterior, and its exposed surface is concave in varying degrees. It may be lobate, foliaceous, stoutish, or thin and in shape may resemble a diminutive propeller or in some cases a minute bit of crumpled, dry, leafy substance. Like the retrorse median process on the terminal tergal segment, the form of the head is constant for any given species.

The aedeagus (fig. 11), or intromittent organ, is relatively simple in structure in all of the discocephalines, and that of *Antiteuchus* could well serve as a typical example for most of the subfamily. It consists of a short, stout, slightly arcuate, subcylindrical, or subovoid,

heavily sclerotized phallosoma, called the phallotheca, which, in almost every case, is glossy black in fully matured specimens, and a very narrow, sclerotized, strongly arcuate, tubular vesica through which extends the seminal duct. In most cases a small, partially sclerotized, reflexed flap or liplike lobe arises from the basal (proximal) end of the vesica at the point where it arises from the phallotheca. Treatment of the aedeagus with caustic soda, caustic potash, and glacial acetic acid has failed to produce expansion or distension of any conjunctival membranes or vesicles such as are frequently attached to the phallosoma in other subfamilies of pentatomids. Apparently these structures are lacking in the discocephalines, and the vesica is not retractible as it is in many other species of the Heteroptera.

THE TWO TYPES OF PYGOFER FOUND IN *Antiteuchus*

THE *parallela* PATTERN

Figures 9, 23, 30, 35

In one group of species in this genus the axes of the lateral apical lobes of the pygofer are straight and extend posteriorly in position almost exactly parallel to one another so that their long axes are not curved and their apices are as far apart as are their bases. In this instance the lobes are stubby, hardly twice as long as wide, usually less, and in lateral aspect are cuneiform with rounded angles, somewhat resembling a sunflower seed. Their outer faces are mildly convex and their inner surfaces usually concave, so that in cross section they are lunate. Their apices are subobtusely or subacutely rounded, not at all cuspidate or acutely pointed. In this group the central portion of the dorsal border of the genital capsule is only moderately emarginate, the sinus extending hardly more than one-fourth of the median length of the capsule itself. It is usually evenly arcuate but may, in some species, be obscurely angular at its closed end, and its margin is only inconspicuously thickened, if at all. In this group the crest of the proctiger is commonly tumescent with a thick covering of longish hairs, but is otherwise unadorned. Accessory tubercles or lobules on the crest are lacking. The posterior or deflexed face of the proctiger is mildly con-

vex, slightly rotund, and its lateral margins are not at all thickened or ridged, rather obtusely rounded, and it does not possess a median, low carina. The heads of the parameres are rather simple, frequently stoutish, and generally simply lobate.

In this paper I call this group of species the "*parallela* group."

Certain somatic characters are apparently associated or linked with this type of pygofer. The margin of the terminal abdominal tergite has a fringe of long or short hairs (or tufts) and an inconspicuous, frequently obsolescent, transverse membrane (fig. 1), and the median retrorse process arising from the margin is usually declivous without showing extreme specialization in its pattern. These species seldom show evidence of a flavescent callosed spot in the posterior lateral corner of each metapleuron just behind the evaporatorium; only two new species are exceptions.

THE *incurvaria* PATTERN

Figures 10, 42, 47, 51, 54, 58, 61, 64, 67, 70, 73, 76

In contrast to the foregoing, another group of species has somewhat longer lateral apical lobes, the axes of which are distinctly arcuate so that in some cases they resemble a pair of parentheses, with their apices somewhat closer together than are their bases. In this instance the lobes are at least twice as long as they are wide, usually distinctly longer. They may be prismatic, terete, elliptical, or of some other form but are not wedge-shaped like a sunflower seed. Their inner faces are only mildly concave, if at all, their outer (subventral) faces are either flattish or strongly convex, and their cross sections vary greatly in form. Their extreme apices may be acute and wedge-shaped, pointed, acutely angled, or cuspidate, indeed, bicuspidate. In this group the central portion of the dorsal border of the genital capsule is deeply emarginate, the sinus extending at least one-third of the median length of the capsule, in some species as much as seven-eighths of the length, and its margins are distinctly thickened to form a wishbone-shaped, or horseshoe-shaped, figure. In this group the proctiger has, in every case, a pair of conspicuous tubercles or lobules on its crest, and its posterior (deflexed or declivous) face is usually trapezoidal in shape (*am-*

plus and *tesselatus* excepted), with its lateral margins narrowly thickened and raised, and its central disc frequently having a low, median, carina-like ridge. The heads of the parameres are usually conspicuous, foliaceous, and elaborately lobate.

Herein I call this collection of species the "*incurvaria* group."

Certain somatic characters are apparently associated or linked with this type of pygofer. The apical margin of the terminal abdominal tergite lacks a fringe of hairs but has a wide, conspicuous, usually wrinkled membrane (fig. 2). The median retrorse process varies greatly and is frequently specialized in form, in some cases very much reduced; it may or may not be declivous. The antennae are setulose or very short setose, without long interspersed hairs. The tibiae also lack long hairs. In every case there is a flavescent calloused spot in the posterior lateral corner of each metapleuron just behind the evaporatorium. These species are mildly convex or subdepressed, intermediate in size, and are finely and usually densely punctured.

EXTERNAL FEMALE GENITALIA

Figure 12

In general the external female genitalia of the pentatomids consist of five plates: two basal, one median, and two apical. The basal plates may be flattish or strongly convex; in the latter case their surfaces, in part, face posteriorly rather than ventrally. The median plate, as implied, is centrally situated, varies in form and size, and is usually flat.

The apical plates are ordinarily smaller than the basal ones, are flat, and may or may not reach beyond the abdominal margin. The anal tube is flat and extends posteriorly behind the median plate and between the two apical plates.

The discocephaline pentatomids are distinct from their close allies in that only four plates are visible, the median plate being absent as a sclerotized member.

In *Antiteuchus* the arrangement of the plates may be taken as typical for most of the discocephalines. In all species the basal plates are flattish, or only feebly convex, merely continuing the gentle curvature of the abdominal disc, and therefore their external surfaces face ventrally. The geometric form of the plates varies slightly. In some species they are somewhat triangular, with their lateral angles obtusely rounded, although in others their lateral margins may become a little elongated and the plates assume a subtrapezoidal form. Their ental margins are contiguous for their entire length, and their apical margins are usually truncate and, taken together, form a straight line across the abdomen. In only one or two instances is there divergence from this general pattern, i.e., in the subgenus *Neodine* and in *A. marmoratus* (Erichson).

The apical plates are, in every case, smaller than the basal ones, their visible portions are ordinarily semicircular, are well separated from each other by the anal tube, and their apices just about reach the abdominal margin.

SYSTEMATICS

GENERA ASSOCIATED WITH *Antiteuchus*

SEVERAL GENERA are closely related to *Antiteuchus*; additional ones are in the process of study and will soon be described. For the time being, the following key will serve to separate those genera that are already established:

1. Rostrum long, reaching at least seventh abdominal sternite, in some cases surpassing apex of body; antennal segment II more than half of length of segment III, in some cases subequal to it; surface of head concave *Mecistorhinus* Dallas, 1851
Rostrum not exceeding middle of abdominal disc, usually not surpassing third visible sternite; antennal segment II less than half of length of segment III, in some cases approaching it but usually very short; surface of head flat 2
2. Mesosternum feebly tumid, with low, obtuse, narrow, median, subcalloused ridge or subcarina 3
Mesosternum bilaterally tumid, halves separated by shallow median sulcus, only xyphus showing evidence of thin, raised line *Antiteuchus* Dallas, 1851
3. Head shorter than greatest width just before eyes; anterior pronotal margin not thickened or elevated, without intramarginal groove; anterolateral pronotal margins straight; entire posterior margin of metapleuron calloused; veins of hemelytral membranes simple *Callostethus* Ruckes, 1961
Head longer than greatest width just before eyes; anterior pronotal margin thickened, elevated, with intramarginal transverse groove; anterolateral pronotal margins distinctly sinuate; posterior margin of metapleuron not at all calloused; veins of hemelytral membranes ramose *Parantiteuchus* Ruckes, 1962

GENUS *ANTITEUCHUS* DALLAS

Antiteuchus DALLAS, 1851, pp. 152, 163. STÅL, 1867, p. 501; 1868, p. 18. RUCKES, 1961, p. 151, figs. 3, 4.

Macrothyreus FIEBER, 1851, p. 457 (type species, *annulicornis*). New synonymy.

Dinocoris (*Mecistorhinus*): STÅL, 1872, p. 9. LETHIERRY AND SEVERIN, 1893, p. 85.

Grimgerda KIRKALDY, 1909, p. 217. New name for *Macrothyreus* Fieber.

Mecistorhinus (*Antiteuchus*): KIRKALDY, 1909, p. 217.

Antiteuchus (*Neodine*): RUCKES, 1961, p. 152. New taxon.

TYPE SPECIES: *Dinidor variolosus* Westwood.

DIAGNOSIS: Head no longer than greatest width just before eyes, margins sinuate there, then subparallel, not reflexed, surface flatish, apex evenly rounded, entire. Antennal segment II usually less than half of length of III. Rostrum not surpassing fifth abdominal sternite. Males with retrorse median process arising from apical margin of terminal abdominal tergite. Proctiger in male incompletely sclerotized, dorsal median surface membranous.

GENERIC CHARACTERS: Head oval, eyes large, protruding; margins just before them distinctly sinuate, then subparallel, in some cases weakly ampliate, not reflexed; juga longer than tylus, overlapping apically, apex evenly rounded, without median incisure; ocelli in line with posterior margins of eyes. Antennae five-segmented, usually reaching or surpassing middle of scutellum, segment II subequal to I and usually not more than half of length of III, in some cases exceedingly short, in which instances II shorter than I; segment I not, or barely, reaching apex of head. Pronotum subhexagonal, about two and one-half times as wide across humeri as long medially; anterior margin as wide as head through eyes, shallowly excavated centrally, there mildly elevated, and terminating laterally in a minute, anterior, apical denticle; intramarginal groove present, terminating behind eyes; anterolateral margins straight, entire, very narrowly, abruptly reflexed; humeri rounded, rectilinear or obtuse, not at all produced. Scutellum distinctly longer than wide at base, apex attaining sixth abdominal tergite in female, seventh in male; reaching apex of abdomen in *Neodine* Kirkaldy; frena ending beyond middle of lateral margins, postfrenal margins feebly converging, apex rounded, in some cases obtusely angular, or, in *Neodine*, acute. Hemelytral membranes exceeding abdominal apex, veins simple, in a few instances irregular or bifurcated; costal margin of embolium weakly ampliate opposite third abdominal segment, then feebly

sinuate and subreflexed toward base; external apical angles of coria exceeding apex of scutellum, except in *Neodine*. Apical margin of seventh abdominal tergite in male variously excavated, provided with retrorsely produced, median process or lobe. Tergum finely, sparsely punctured.

Bucculae weakly elevated, uniform in height, subparallel, buccular canal somewhat widened, moderately deep. Rostrum reaching fifth abdominal sternite or shorter, without an intercalary element between basal two segments, segment I just attaining procoxae, segment II slightly arcuate, a little shorter than segments III and IV combined, reaching the mesocoxae, segment IV shorter than III. Mesosternum feebly bilaterally tumid, vaguely, shallowly medially sulcate between halves, xyphus with obscure, thin, raised line. Metasternum hexagonal, slightly longer than wide, surface flattish, provided with thin, median, raised line. Mesocoxae and metacoxae mutually equidistant. Metapleural ostiole moderate in size, its peritreme compressed, straight, digitiform, appressed to surface of plate, terminating abruptly before reaching middle of disc, then continuing laterally in a thin, attenuated, oblique ruga reaching the anterior margin of metapleuron; evaporatorium matte, coarsely undulant or rugose. Median abdominal furrow broad, shallow, in some species vague and obsolescent. Basal (anterior) margin of seventh abdominal sternite in male produced forward into an acute angle reaching the middle of abdominal disc.

Pygofer provided with quasiarticulated lateral apical lobes; dorsal median portion of proctiger membranous, underlying portion of aedeagus visible through membrane from above; parameres not exceeding apices of lateral apical lobes; ventral apical margin of capsule not prominently produced or reflexed. Apical margins of basal plates of female genitalia, when taken together, forming a straight line subparallel to posterior abdominal margin; in a few species this line feebly arcuate, or may be weakly bisinuate.

The genus *Antiteuchus* is further divisible into two subgenera as follows:

Scutellum long, reaching or exceeding end of abdomen, postfrenal portion longer than anterior portion, apex acute; external apical angles of

coria not exceeding apex of scutellum
 *Neodine* Kirkaldy, 1909
 Scutellum shorter, not surpassing seventh tergite; postfrenal portion shorter than anterior portion, apex not acute, rounded or obtusely angular; external apical angles of coria always exceeding apex of scutellum . . . *Antiteuchus* Dallas, 1851

SUBGENUS NEODINE KIRKALDY

Cataulax AMYOT AND SERVILLE, 1843, p. 111 (not Spinola).

Dinocoris: STÅL, 1872, p. 7 (not Burmeister).

Neodine KIRKALDY, 1909, p. 218. Makes *macraspis* Perty the type.

Antiteuchus (Neodine): RUCKES, 1961, p. 152. new taxon.

TYPE SPECIES: *Pentatoma macraspis* Perty.

DIAGNOSIS: Scutellum attaining or exceeding apex of abdomen, apex subacutely angular, surpassing external apical angles of coria.

KEY TO SPECIES OF THE SUBGENUS *Neodine*

1. Color design on scutellum and hemelytra lineated yellow and brown; over-all color pale; basal plates of female genitalia trapezoidal, wider than long, apical margins feebly sinuate 2
 Color design on scutellum and hemelytra finely reticulate, without longitudinal lineation; over-all color dark bronzy brown; basal plates of female genitalia subovate, longer longer than wide, apical margins truncate, convergent medially. *tatei* (Ruckes), 1958
2. Pronotum with five (one large central, four smaller lateral) impunctate, flavescent patches surrounded by piceous reticulum; antennae fuscous, only basal segment fulvous; antennal setae shorter than diameter of segments *variegatus* Dallas, 1851
 Pronotum without such patches, design over-all longitudinally fusco-lineated; antennae piceous, basal two and proximal half of third segments fulvous; antennae and tibiae with long hairs *macraspis* (Perty), 1834

Antiteuchus (Neodine) tatei (Ruckes)

Neodine tatei RUCKES, 1958, p. 7.

Antiteuchus (Neodine) tatei: RUCKES, 1961, p. 153.

DIAGNOSIS: Dark bronzy brown, with reticulated design.

This species measures 13.5 mm. in length to the tip of the membranes; 7.75 mm. across the humeri; 9.0 mm. in greatest abdominal diameter.

TYPE: Holotype, female; deposited in the

American Museum of Natural History. Type locality: Mt. Duida, Venezuela.

DISTRIBUTION: *Venezuela*: Mt. Duida.

REMARKS: This species is readily recognized by its over-all dark bronzy appearance and by the absence of a longitudinally lined design on the scutellum and hemelytra; only two (one short and one longer) ivory laevigate lines appear on the coria; the elongated basal plates of the female genitalia distinguish this from the other two species in the subgenus. The tibial setae are no longer than the diameter of the associated part to which they are attached. Unfortunately the antennae are missing, and no statement as to the condition of the setae on the segments can be made. The only specimen of this species that I have seen is the holotype.

***Antiteuchus (Neodine) variegatus* Dallas**

Antiteuchus variegatus DALLAS, 1851, p. 163.

Dinocoris (Dinocoris) variegatus: STÅL, 1872, p. 7. LETHIERRY AND SEVERIN, 1893, p. 86.

Neodine variegatus: KIRKALDY, 1909, p. 218.

Antiteuchus (Neodine) variegatus: RUCKES, 1961, p. 153.

DIAGNOSIS: Pronotum with five flavescent laevigate patches surrounded by fuscous reticulum; antennae and tibiae without long setal hairs.

DESCRIPTION: This species measures 17.5 mm. in length to the tip of the membranes; 9.0 mm. in width across the humeri.

Dallas' original description is quite adequate, and the reader is referred to it. Add to it that the apical margins of the basal female genital plates are distinctly excavated and, taken together, form a bisinuate line across the abdomen; setae on basal antennal segments and tibiae no longer than diameters of associated parts.

TYPE: Holotype, female; deposited in the British Museum (Natural History). Type locality: Para, Brazil.

DISTRIBUTION: *Brazil*: Para. *Peru*: Rio Tapiche. *Surinam*: Paramaribo.

REMARKS: This species is the largest of the three and readily identified by the key characters. I have not seen a male specimen and am therefore unable to point out the differences between this species and *macraspis*.

***Antiteuchus (Neodine) macraspis* (Perty)**

Figures 13, 14

Pentatoma macraspis PERTY, 1834, p. 166, pl. 33, fig. 7.

Dinocoris macraspis: BURMEISTER, 1835, p. 364. STÅL, 1872, p. 7. DISTANT, 1880-1893, p. 323, pl. 29, fig. 19. LETHIERRY AND SEVERIN, 1893, p. 86.

Dinocoris annulatus HERRICH-SCHAEFFER, 1835, p. 66, fig. 279 (in error labeled *macraspis*). DALLAS, 1851, p. 163.

Cataulax macraspis: AMYOT AND SERVILLO, 1843, p. 112.

Neodine macraspis: KIRKALDY, 1909, p. 218.

Antiteuchus (Neodine) macraspis: RUCKES, 1961, p. 153.

DIAGNOSIS: Pronotum without flavescent laevigate patches, scutellum and coria flavescent, with longitudinal lines of brown punctures.

DESCRIPTION: Large species (14.5 mm. in length), oval, moderately convex; sordid flavescent, pronotum, scutellum, and coria having longitudinal wavy lines of ferruginous, fuscous, and piceous punctures; venter sordid flavescent, lateral portions irregularly, loosely stippled with ferruginous dots.

Head as long as greatest width just before eyes, anteocular sinuses obtuse, margins subparallel, apex evenly rounded; disc flavescent, punctures ferruginous, irregularly distributed, considerable laevigate area showing. Basal two and most of third antennal segments flavescent, terminal two piceous; basal third of fifth segment flavescent; basal three segments with many long setal hairs interspersed with shorter ones; segmental ratios: 25/15/75/75/75, i.e., segment II shorter than I and one-fifth of length of III.

Pronotum about two and one-third times as wide as long, anterior two-thirds of disc mildly declivous; anterior margin feebly excavated, intramarginal groove poorly developed; anterolateral margins straight; punctures across transhumeral area piceous, others ferruginous and fuscous. Punctures on scutellum ferruginous, arranged in irregular, wavy, longitudinal lines, a median impunctate line on apical third; apex acutely rounded. Hemelytral membranes hyaline, exceeding apex of abdomen, veins not colored, external apical angle of corium acutely

rounded, not reaching apex of scutellum. Connexivum flavescent, with irregular ferruginous and fuscous markings.

Venter pale flavescent, with loose, irregular, ferruginous stipples on lateral portions. Evaporatorium fuscous, matte, with an ochraceous calloused spot in some cases. Metapleuron without calloused spot in posterior lateral corner. Under surface of head impunctate, bucculae low, widely separated, buccular canal moderately deep. Legs flavescent, femora with fine fulvous markings, tibiae with long setal hairs, sulcate surface and tarsal segments reddish fulvous.

Tergum ochraceous, impunctate. Apical margin of terminal abdominal tergite in male (fig. 13) deeply sinuate, impressed at lateral ends, having narrow transverse membrane, and small tufts of short hairs at lateral ends; median retrorse process ligulate, two and one-half times as long as wide, apical end transversely rugulose, feebly reflexed.

Basal plates of female genitalia subtrapezoidal, apical margins very feebly sinuate.

Pygofer broadly ovate, nearly globose, uniformly convex; central portion of dorsal border moderately emarginate, sinus extending less than one-third of median length of capsule, closed end angulated, margins obscurely thickened; lateral apical lobes parallel, cuneiform, with rounded angles, twice as long as wide; ventral apical margin mildly sinuate at center; submarginal impression very shallow, almost obsolete; proctiger short cylindrical, dorsal membrane rhomboidal at base, narrowed apically, crest quite convex, densely hirsute, without tubercles, posterior (deflexed) face transversely oblong, with rounded corners; head of paramere (fig. 14) stoutish, irregular quadrangular, with three projecting, acute, triangular lobes, ventral half of head overhanging ventral apical margin.

This species measures 14.5 mm. in length to the tips of the hemelytral membranes; 8.5 mm. in width across the humeri.

TYPE: Holotype, male, São Paulo (St. Pauli), Brazil; deposited in the Zoological State Collection, Munich, Germany.

DISTRIBUTION: *Brazil*: São Paulo; Recife; Bahia. *Colombia*: Cauca Valley; Cali. *Panama*: Barro Colorado Island; David; El Volcan; Bouquete. *French Guiana*: Cayenne.

Costa Rica: Cairo; Turrialba.

REMARKS: This species is by far the most common of the three. In Panama and Costa Rica many specimens have been taken at lights. Thus far I have been unable to discover what the food plants of this species are. Its pale yellowish color immediately makes it rather conspicuous. There is considerable variation in the color design on the body; one specimen taken at Barro Colorado Island shows a paucity of ferruginous and piceous punctured lines, leaving the surface of the body largely glabrous and impunctate. In all cases the long hairs on the antennae and tibiae distinguish this species from *variegatus*.

SUBGENUS *ANTITEUCHUS* DALLAS

TYPE SPECIES: *Dinidor variolosus* Westwood.

DIAGNOSIS: Scutellum not reaching or exceeding apex of abdomen, apex not subacutely angled; external apical angle of corium surpassing apex of scutellum.

REMARKS: This subgenus is further divisible into two groups or complexes of species. Their differentiation, and the terminology applied to them, is based almost entirely on the characters shown in the external male genitalia. To distinguish the two I give the following couplet:

Lateral apical lobes of pygofer stubby, subcuneiform, with rounded angles, seldom twice as long as wide, apices subobtusate, axes parallel (fig. 9); apical margin of terminal abdominal tergite in male with fringe (or tufts) of hairs and obsolescent transverse membrane; basal half of antennal segment V in most cases piceous or fuscous; metapleuron in most species devoid of flavescent callus in posterior lateral corner . . .

. *parallela* group
Lateral apical lobes of pygofer variously shaped, elongate, usually twice as long as wide or longer, apices variously acute or cuspidate, axes distinctly arcuate and incurved; apical margin of terminal abdominal tergite in male devoid of fringe (or tufts) of hair, provided with prominent transverse, wrinkled membrane; basal half of antennal segment V invariably ivory, apex infuscated; metapleuron in all cases with flavescent callus in posterior lateral corner . . .
. *incurvaria* group

THE *parallela* GROUP

The collection of species in this group is

distinguished by the following combination of characteristics:

1. With rare exceptions a flavescent callus totally absent from posterior lateral corner of each metapleural plate.

2. Antennal segment II shorter than segment I (in one or two cases subequal), less than two-fifths of length of segment III; basal half of segment V piceous or fuscous, apical half in many cases ivory (two species excepted).

3. Apical margin of terminal abdominal tergite in male with transverse fringe of long or short hairs, or small tufts of hairs at lateral extremities, and a very insignificant, in many cases obsolescent, transverse membrane just beneath hairs (fig. 1). Median retrorse process usually declivous, in most cases ligulate, with a slight ampliation beyond middle, and narrowed apical portion which is transversely rugulose and reflexed; in a few cases process lacking reflexed apex, but otherwise rather simple.

4. Lateral apical lobes of pygofer stubby, in no case more than twice as long as wide at their bases, in lateral aspect subcuneiform, with rounded angles somewhat resembling a sunflower seed; external faces convex, internal ones concave, their margins acute.

5. Crest of proctiger bilaterally tumescent, densely pilose, without a pair of tubercles; posterior (deflexed) face usually not trapezoidal in form, without thickened and raised lateral margins and without median, low, short carina.

6. Emargination of central portion of dorsal border of genital capsule shallow, sinus not extending more than one-third of median length of capsule.

7. Heads of parameres usually thickish, not distinctly foliaceous, variously lobate, relatively simple in form.

8. Length varying from 8.0 mm. to 15 mm.

9. Many coarsely punctured and pitted; others finely punctured and subdepressed.

The *parallela* group is divisible into two smaller categories on the basis of the presence, or not, of long hairs on the sides of the tibiae (figs. 7, 8).

KEY TO THE *parallela* GROUP OF *Antiteuchus*

1. Sides of tibiae, just below dorsal margins, with short setae, none longer than diameter of tibia (fig. 7); species 13.0

mm. in length or more; quite convex, coarsely and irregularly punctured and pitted (one species excepted); basal portion of hemelytral membrane covered by scutellum pale; antennae setulose (fig. 4), setulae on segments II and III subappressed 2

Sides of tibiae, just below dorsal margins, with many long hairs interspersed between shorter setae, each as long as, usually longer than, diameter of tibia (fig. 8); species usually less than 13.0 mm., moderately convex, or depressed, finely, densely, evenly punctured; basal portion of hemelytral membrane covered by scutellum darker than membrane or concolorous; antennal segments II and III setose, in some cases with interspersed long hairs (figs. 5, 6) 8

- 2(1). Antennae uniformly black; punctures coarse, some pitlike, aggregated in widely spaced clusters, with extensive laevigate surface between; body very convex, subgibbous; metapleuron with small, flavescent callus in posterior lateral corner

. *subimpunctatus*, new species
Antennae not uniformly black; punctures fine or coarse, irregularly distributed, not aggregated in wide-spaced clusters; species strongly convex but not subgibbous 3

- 3(2). Antennal segments I and II pale yellow; punctures very fine, shallow; pronotum with two posteriorly divergent, yellow stripes and broad, median, yellow band; metapleuron with small flavescent callus in posterior lateral corner

. *radians*, new species
Antennal segments I and II not totally pale yellow; punctures coarse, deep, irregularly distributed; pronotum without yellow stripes; metapleuron (except in very rare instances) without flavescent callus in posterior lateral corner . 4

- 4(3). Terminal two antennal segments sordid ivory or pale yellow; basal segments reddish fulvous 5

Terminal two antennal segments fuscous to piceous, only apex of segment V ivory; basal segments usually fuscous to piceous, or dark reddish fulvous . 6

- 5(4). Species variegated, above flavescent, with fuscous, piceous, or reddish fulvous punctures and blotches; femora mottled near bases; knee joints flavescent or reddish; connexival segments with yellow spot in middle of each margin, both

- above and beneath
 *variolosus* (Westwood)
 Species almost uniformly fuscous; femora reddish fulvous or darker, without mottling, knee joints concolorous; margins of connexival segments without yellow markings *fuscus* (Ruckes)
- 6(5). Species uniformly piceous; margins of connexival segments without flavescent markings *piceus* (Palisot de Beauvois)
 Species variegated, above flavescent, with fuscous, piceous, or reddish fulvous punctures and blotches; margins of connexival segments usually with flavescent marks 7
- 7(6). Basal three antennal segments black; segment IV longer than segment III, flavescent, with broad black annulus; punctures coarse, wide-spaced, surface glistening yellow
 *marmoreus* (Spinola)
 Basal three antennal segments dark reddish fulvous, apex of segment III ivory; segment IV distinctly shorter than segment III; punctures coarse and congested, surface semiglossy
 *mixtus* (Fabricius)
- 8(1). Antennal segments II and III with long hairs, longer than diameters of segments, interspersed between shorter setae 9
 Antennal segments II and III with moderately short, semi-erect setae, none longer than diameters of segments . 10
- 9(8). Antennae concolorous piceous, only extreme tip of segment V ivory, segments I and II subequal, segment II one-third of length of III; species almost uniformly piceous; humeri, base of costa, and pronotal disc concolorous *nigricans*, new species
 Antennae piceous, joints as well as apex of segment V broadly flavescent; segment II longer than I and not less than two-fifths of length of segment III; species usually variegated, base of costa and humeral angles flavescent *panamensis* (Ruckes)
- 10(8). Species no more than 12.0 mm. in length, depressed or subdepressed; antennal segment II half, or very slightly more than half, of length of I 11
 Species more than 12.0 mm. in length; moderately convex; antennal segment II more than half of length of I, in some cases subequal 14
- 11(10). Antennal segment II half of length of I, no more than one-fourth of length of III (usually less); head of paramere bilobed (figs. 31, 33) 12
 Antennal segment II slightly more than half of length of segment I, and at least one-fourth of length of III; head of paramere trilobed (fig. 36) 13
- 12(11). Body, legs, and antennae concolorous yellowish fulvous or dark tan; small calloused flavescent point at each basal angle of scutellum; disc of pronotum smooth; legs not irrorate; length, 8.57 mm. or less . . . *fulvescens*, new species
 Body color variegated or uniform, but not uniformly yellowish fulvous or tan; basal angles of scutellum devoid of flavescent points; disc of pronotum somewhat irregular or roughish; antennae piceous, basal segments black, apical portion of segment V sordid ivory; legs irrorate or stippled, in some cases obscurely so; length, more than 9.0 mm. *sepulcralis* (Fabricius)
- 13(11). Antennal segment I, at least in part, and apical third of segment V, flavescent; lateral portion of abdominal venter variously colored but not bright orange-ochraceous; central portion of head, pronotum, and scutellum not suffused with rich orange-brown; color design very varied, lineated, variegated, in some cases uniformly dusky
 *tripterus tripterus* (Fabricius)
 Antennal segment I totally piceous, only extreme tip of segment V flavescent, this in some cases concolorous; broad lateral margins of abdominal venter bright orange-ochraceous; central portions of head, pronotum, and scutellum suffused with rich orange-brown; body otherwise uniformly fuscous
tripterus limbativentris, new subspecies
- 14(10). Species distinctly convex; antennae totally black; design variegated, in some specimens nearly uniformly fuscous; anteocular sinuses subrectilinear or feebly obtuse; lateral margins before sinuses very weakly ampliate, apex of head somewhat broadly rounded; antennal segment II distinctly shorter than I *melanoleucus* (Westwood)
 Species mildly convex to subdepressed; antennae not totally black; anteocular sinuses distinctly obtuse, margins before them subparallel, apex of head semicircular; antennal segment II equal to, or only slightly shorter than, I . 15
- 15(14). Antennal segments I, II, and most of III ochraceous; pronotum piceous, with broad, median, ochraceous band; scu-

- tellum and hemelytra ochraceous, with six large black patches; legs uniformly ochraceous . . . *pictus*, new species
Color design otherwise 16
- 16(15). Antennal segment II three-fourths of length of I, one-fourth of length of III; antennae piceous, joints and apical half of segment V ivory; pattern variegated, design on hemelytra more or less uniform *costaricensis*, new species
- Antennal segment II equal to I and one-third of length of III; color rich dark brown, variegated with small flavescent markings, some of which accumulate at apical portion of corium to form loose, pale patch
. *maculosus*, new species

The first seven of the following species apparently form one natural entity. They all have setulose antennae; are large, 13.0 mm. or more in length; have hemelytral membranes in which the basal portion covered by the scutellum is pale; have setose tibiae without interspersed long hairs; with one exception are coarsely punctured; and have similar parameres.

***Antiteuchus subimpunctatus*, new species**

DIAGNOSIS: Robust, very convex, assuming testudinate appearance; large, about 14.0 mm. in length (female), very broadly oval, abdomen suborbicular. Above glossy, brownish ochraceous, punctures fuscous to piceous aggregated in widely spaced clusters, leaving extensive laevigate and subcalloused areas. Antennae totally black. Ventral abdominal segments with submarginal, ochraceous, oblong spot. Metapleura with small flavescent callosity in posterior lateral corners.

DESCRIPTION: Head flat, shorter than median length of pronotum and equal to width just before eyes, ochraceous to flavescent, essentially impunctate, few obscure fuscous punctures on vertex and apical ends of juga, base of tylus outlined in black. Margins before eyes obtusely sinuate, then subparallel, barely ampliate, apex broadly rounded; eyes and ocelli sordid brown. Antennae uniformly black, with insignificant setulae; segmental ratios: 30/20/95/105/110, i.e., segment II shorter than I and more than one-fifth of length of III.

Pronotum little less than two and one-half times as wide as long, anterior portion mildly declivous; anterior margin shallowly excavated centrally, intramarginal groove interrupted at middle, impressed at each end behind ocelli; anterolateral margins straight, humeral angles roundly rectilinear; broad areas within anterolateral margins and around cicatrices piceous, punctures there finer; larger piceous, pitlike punctures irregularly disposed in pairs and small coalescent clusters, leaving much of disc smooth and slightly elevated. Scutellum about one-fourth longer than wide at base, strongly convex, basal area distinctly higher than surface of pronotum, extreme apex pinched into small, stubby, lobe-like prolongation which reaches middle of sixth abdominal tergite; frena ending behind middle, postfrenal lobe short, broad, convex; punctures and piceous pits concentrated in clusters at basal angles and near lateral margins of basal third, others somewhat irregularly and sparingly distributed, with considerable smooth surface exposed, anteapical third essentially impunctate. Coria much longer than scutellum, free apical margins feebly sinuate, external apical angles roundly acute; embolium wide; piceous punctures aggregated in small and large clusters irregularly disposed over disc, leaving considerable smooth surface between them; membrane slightly exceeding abdominal apex, clear, rich brown, paler toward base, veins concolorous, slightly raised. Connexivum ochraceous, exposed, impunctate, sutures between segments bordered on each side with broad fuscous bands.

Thoracic venter fuscous to piceous, lateral areas finely, densely punctured, anterolateral area of propleura laevigate ochraceous, metapleura with small flavescent callosity in posterior lateral corners. Rostrum reaching middle of abdomen, apex of segment II slightly exceeding mesocoxae, segment IV distinctly shorter than segment III. Central portions of mesosternum and metasternum typical for genus. Legs uniformly castaneous, setae on tibiae short, knees feebly flavescent. Abdomen centrally fulvous, laterally fuscous, lateral margin of each segment with oblong, ochraceous spot; punctures sparse, shallow; median furrow conspicuous, extending through fifth sternite (female).

Basal plates of female genitalia triangular, little wider than long, lateral angles obtusely rounded, apical margins truncate and, taken together, forming straight line subparallel to apex of abdomen.

Length to tip of membranes, 14.0 mm.; width across humeri, 8.75 mm.; greatest abdominal diameter, 9.5 mm.

TYPE: Holotype, female; Manaos, Amazonas, Brazil; August, 1914; Abraham Roman, collector; deposited in the Natural History Museum, Stockholm.

REMARKS: The absence of a male specimen unfortunately prevents an accurate determination of the phyletic position of this species, but certain attributes place it close to the *variolosus-mixtus-marmoreus* complex. It is the only species with which I am acquainted that is so convex, with extensive glabrous area showing, and that has uniformly black antennae. The elevated base of the scutellum which is higher than the adjacent surface of the pronotum is one of its diagnostic features.

Antiteuchus radians, new species

Figures 15, 16

DIAGNOSIS: Size of *variolosus*, finely and sparingly punctured, two basal antennal segments totally flavescent, pronotum with broad median band and two lateral, narrow, posteriorly divergent stripes, flavescent.

DESCRIPTION: Broadly ovate, quite convex; glossy ochraceous, with shallow, very fine, widely spaced, fuscous to ferruginous punctures tending to aggregate in small clusters on hemelytra; beneath, semiglossy, fulvous to flavescent, with fine ferruginous and fuscous punctures; metapleuron with small, subtriangular, calloused, flavescent spot in posterior lateral corner just behind evaporatorium.

Head as long as greatest width just before eyes, anteocular sinuses conspicuous, obtuse, margins before sinuses parallel, then weakly ampliate, apex broadly rounded; disc flavescent, punctures fine, ferruginous, very sparingly distributed, margins of sinuses fuscous. Antennae setulose, basal two segments flavescent, remaining ones fuscous, their joints and terminal half of segment V sordid ochraceous; segmental ratios: 25/18/58/58/62, i.e., segment II shorter than I and slightly less

than one-third of length of III, terminal three segments subequal.

Pronotum barely two and one-half times as wide as long, surface quite smooth, punctures fine, widely spaced; anterior margin feebly excavated centrally, intramarginal groove shallow, ending behind eyes; disc with broad, median, posteriorly dilated, flavescent band, with few fine fuscous punctures, and a narrow flavescent stripe on each side originating on anterior margin between eyes and ocelli, diverging posteriorly to terminate at middle of each posterolateral margin; areas between stripes and median band and lateral margins extensively infuscated. Scutellum stoutish, about one-fourth longer than wide at base, quite convex, basal area little higher than margin of pronotum; flavescent, with pair of finely punctured, irregular, fuscous patches near base and smaller pair where frena end; punctures fine, fuscous, sparingly distributed; apex rounded, tending to be obscurely angular. Hemelytra flavescent, with fine, ferruginous, and fuscous punctures aggregated in small, widely spaced clusters; large, fuscous, finely punctured, discal spot present; membranes clear fulvous, paler at base, veins slightly darker, raised. Connexivum flavescent ferrugino-punctate, incisures and sutures broadly banded with fuscous.

Tergum bright fulvous, almost impunctate. Apical margin of terminal tergite in male (fig. 15) rather shallowly sinuate, with modest transverse membrane and lateral tufts of fine hairs; median retrorse process declivous, distinctly ligulate, about three times as long as average width, margins parallel, not ampliate beyond middle, apex abruptly narrowed, transversely rugulose, reflexed.

Venter flavescent, punctures fine, ferruginous, regularly distributed on thorax; central portion of abdomen fulvous. Mesosternum and metasternum flavescent; metapleura lightly infuscated, a small, subtriangular, flavescent spot in posterior lateral corner of each metapleuron. Rostrum fulvous, apical half of terminal segment fuscous, reaching middle of second abdominal sternite, segments III and IV subequal. Legs flavescent, femora extensively stippled and variegated with fuscous spots, tibiae with anteapical fuscous annulus, in some cases a basal one as well, setae short, basal and terminal tarsal

segments infuscated. Median abdominal groove broad and shallow, reaching through fifth sternite; spiracles piceous; segmental incisures fuscous, middle of segmental margins flavescent.

Basal plates of female genitalia semi-oval, wider than long, ental margins contiguous, apical margins essentially straight.

Pygofer broadly ovate, slightly depressed from above; central portion of dorsal border shallowly emarginate, sinus extending barely one-fourth of length of capsule, its base vaguely angular, margins not thickened; lateral apical lobes stout, about one and one-half times as long as wide, outer surface of each feebly impressed just below dorsal margin, apices obtusely rounded; ventral apical margin between lobes trisinate; submarginal impression shallow, broadly oval in outline; proctiger stoutly cylindrical, crest tumid without tubercles, posterior (deflexed) face rotund, slightly convex, dorsal membrane rhomboidal at base, apically tapering to narrow triangle at crest; head of paramere (fig. 16) subquadrangular, four-lobed, two ectal lobes acutely triangular, ental lobes obtusely rounded.

Length to tip of membranes, 14.0 mm. to 14.25 mm.; width across humeri, 8.5 mm.

TYPES: Holotype, male; Rio de Janeiro, Brazil; April 10, 1928; deposited in the American Museum of Natural History. Allotype, female; Corcovado, Rio de Janeiro, Brazil; August 13, 1915; deposited in the American Museum of Natural History. Paratypes: Two males: One with the same data as for the holotype. One, Rio de Janeiro, Brazil; March 4, 1935; P. Sandig, collector; deposited in the United States National Museum (a rather badly damaged specimen).

REMARKS: From the size, shape, coloration, similarity of the pygofer, parameres, and retrose apical process on the last male tergite, there can be no doubt of the relationship of this species to *variolosus* (Westwood) and *mixtus* (Fabricius). It seems that this species has often been misidentified as *A. mixtus* (Fabricius) and is so recorded in a number of earlier works.

Antiteuchus variolosus (Westwood)

Figures 7, 12, 17

Dinidor variolosus WESTWOOD, 1837, p. 25.

Antiteuchus variolosus: DALLAS, 1851, p. 164. RUCKES, 1961, p. 152.

Dinocoris (*Mecistorhinus*) *variolosus*: STÅL, 1872, p. 9. LETHIERRY AND SEVERIN, 1893, p. 86.

Mecistorhinus (*Antiteuchus*) *variolosus*: KIRK-ALDY, 1909, p. 218.

DIAGNOSIS: Terminal two and apical third of third antennal segments uniformly ivory colored; body convex, coarsely punctured, color pattern variegated; margins of connexival segments with oblong flavescent spot.

DESCRIPTION: Robust, strongly convex; sordid flavescent overlain with coarse, irregularly distributed fuscous and piceous punctures, and marked with large, punctured, fuscous patches on anterior portion of pronotum, base and anteapical third of scutellum, and discal portion of hemelytra. Beneath castaneous to fuscous, paler centrally, middle of each connexival margin with small, oblong, ochraceous spot.

Head sordid flavescent to ochraceous, moderately punctured; anteocular sinuses obtuse, margins before them slightly amplify, apex broadly rounded. Basal three antennal segments reddish fulvous, apical portion of segment III, all of segments IV and V sordid ivory; segmental ratios: 20/20/70/60/70, i.e., segment II equal to I, and less than one-third of length of III.

Pronotum two and one-fourth times as wide as long; anterior margin shallowly excavated, intramarginal groove shallow but distinct; lateral portions dark castaneous to fuscous, median area and broad transhumeral band sordid flavescent to ochraceous, punctures coarse, irregularly distributed. Scutellum one-fourth longer than wide at base, apex obtusely subangular, basal area quite convex; broad, interrupted, fuscous fascia across disc near base and across anteapical third; punctures of different sizes, unevenly distributed. Punctures on hemelytra aggregated into small clusters; embolium quite wide; large fuscous discal patch on corium; external apical angle roundly acute; membranes exceeding abdominal apex, rich clear brown, veins concolorous, basal area paler. Connexivum alternated fuscous and flavescent or ochraceous.

Rostrum long for genus, extending to apical margin of fourth visible abdominal segment, segment II reaching metacoxae. Legs rich

reddish fulvous, knees and obscure mottling on femora flavescent. Metapleuron without flavescent callus in posterior lateral corner. Median abdominal furrow well developed, extending through fifth segment.

Basal plates of female genitalia (fig. 12) subtriangular, wider than long, lateral angle obtusely rounded, apical margins in some specimens tending to be feebly sinuate.

Average length to tip of membranes, 15.0 mm.; width across humeri, 9.0 mm.

TYPE: Holotype, female; deposited in the University Museum, Hope Department of Entomology, Oxford University. Type locality: Brazil.

DISTRIBUTION: *Brazil*. *Argentina*: Tucuman; San Ignacio; Asuncion. *The West Indies*: Trinidad.

REMARKS: Unfortunately I have not had access to a male specimen of this species and therefore have not had the chance to dissect the male genitalia. Other characters indicate that *variolosus* is closely related to *mixtus*, *fuscus*, and *piceus*, and I surmise that the male genitalia will likewise be somewhat similar to those of those species.

***Antiteuchus fuscus* (Ruckes), new combination**

Figures 18, 19

Mecistorhinus (*Antiteuchus*) *fuscus* RUCKES, 1959, p. 6.

DIAGNOSIS: Uniformly reddish black or brownish black, coarsely punctured; legs dull reddish, knees concolorous; terminal two and apex of third antennal segments uniformly ivory; margins of connexival segments without flavescent oblong spot.

DESCRIPTION: To the original description add the following: Apical margin of terminal abdominal tergite in male (fig. 18) evenly and deeply emarginate, with narrow transverse membrane and brush of short hairs on lateral thirds; median retrorse process stout, ligulate, about half again as long as wide, decidedly declivous, slightly ampliate beyond middle, apex submembranous, squarish, transversely rugulose, reflexed.

Pygofer ovate, evenly convex; central portion of dorsal border shallowly emarginate, closed end of sinus obscurely angular, extending less than one-third of median length of capsule; lateral apical lobes robust, less than

half again as long as wide at base, dorsal margin distinctly elevated, subcarinate; ventral apical margin sinuate centrally, abruptly oblique-truncate laterally; submarginal impression broad, shallow; proctiger stoutly cylindrical, lateral margins slightly elevated near crest, membrane somewhat impressed, elongate triangular, posterior (deflexed) face subquadrangular, feebly concave; head of paramere (fig. 19) subquadrangular, emarginate on both ental and ectal margins, ental lobes obtusely rounded, ectal lobes acutely triangular.

TYPES: Holotype, male; Maracay, Venezuela. Paratype, male; Rolandia, Paraná, Brazil. Both deposited in the American Museum of Natural History.

DISTRIBUTION: *Argentina*: San Pedro; Tucuman. *Uruguay*: Montevideo. *Brazil*: Rolandia. *Bolivia*: Sacambaya. *Venezuela*: Maracay; Caracas. *Paraguay*: Villarrica.

***Antiteuchus piceus* (Palisot de Beauvois)**

Figures 20, 21

Pentatoma picea PALISOT DE BEAUVOIS, 1805, p. 148, pl. 10, fig. 3.

Dinidor unicolor WESTWOOD, 1837, p. 25.

Antiteuchus piceus: DALLAS, 1851, p. 165. RUCKES, 1961, p. 152.

Dinocoris (*Mecistorhinus*) *piceus*: STÅL, 1872, p. 8. DISTANT, 1880-1893, pp. 46, 324, pl. 5, fig. 4. LETHIERRY AND SEVERIN, 1893, p. 86.

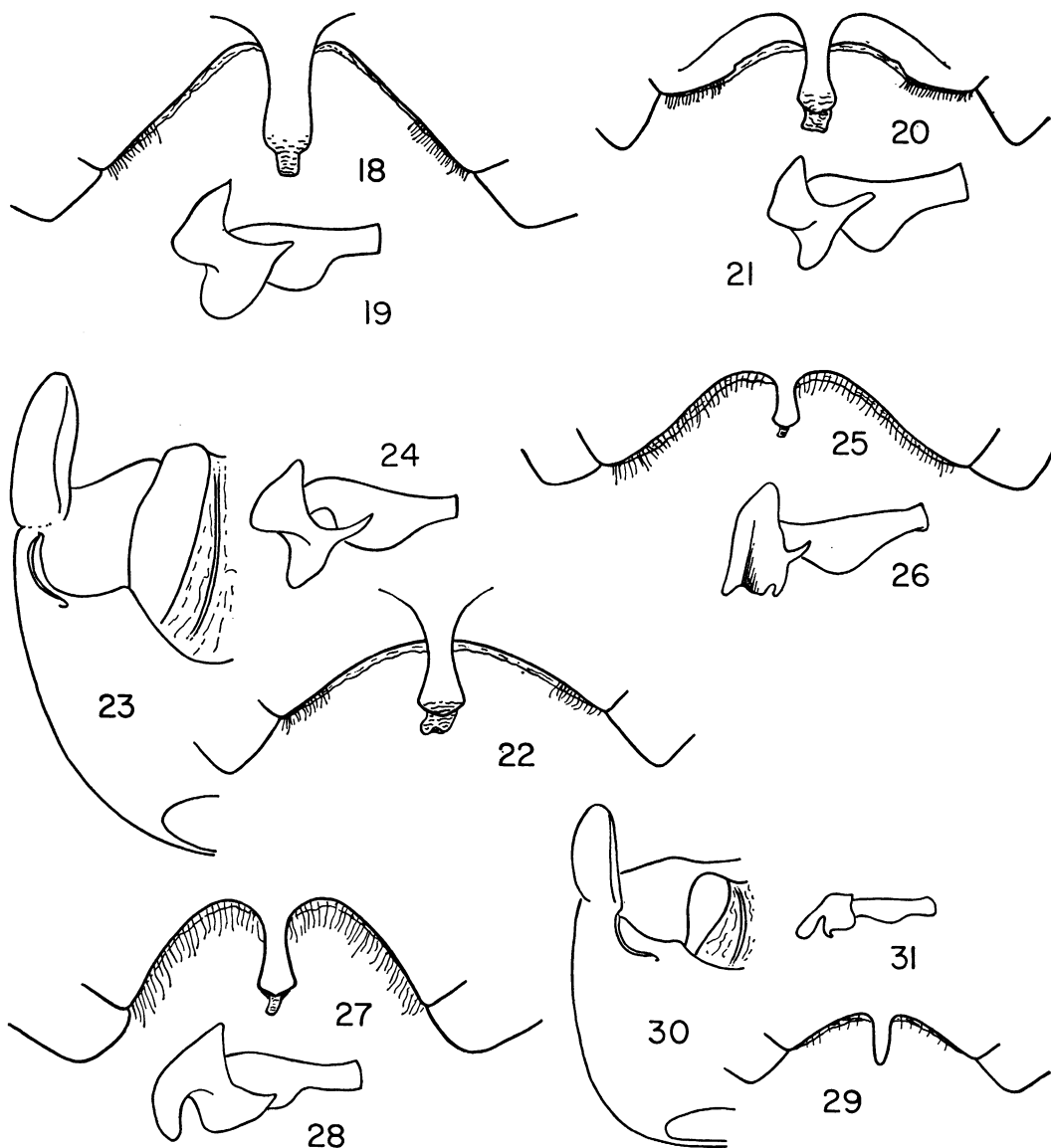
Mecistorhinus piceus: KIRKALDY, 1909, p. 217.

DIAGNOSIS: Uniformly piceous or dark fuscous; antennae fuscous, joints narrowly pale; legs obscurely reddish black, knees concolorous; no yellow spot in middle of margin of each abdominal segment.

DESCRIPTION: Robust, strongly convex. Piceous or dark fuscous, densely overlain with coarse, somewhat congested punctures above; reddish fuscous beneath, thoracic punctures fine, congested. Legs concolorous.

Head as long as greatest width just before eyes, anteocular sinuses shallow, obtuse, margins subparallel, not ampliate, apex evenly rounded; punctures very dense, surface obliquely rugulose. Antennae fuscous, joints and small apical portion of segment V narrowly flavescent; segmental ratios: 25/20/80/70/70, i.e., segment II one-fourth of length of III, slightly shorter than I.

Pronotum slightly less than two and one-



FIGS. 18, 19. *A. fuscus*. 18. Apical margin of seventh tergite in male. 19. Right paramere.
 FIGS. 20, 21. *A. piceus*. 20. Apical margin of seventh tergite in male. 21. Right paramere.
 FIGS. 22-24. *A. mixtus*. 22. Apical margin of seventh tergite in male. 23. Right half of pygofer.
 24. Right paramere.
 FIGS. 25, 26. *A. nigricans*. 25. Apical margin of seventh tergite in male. 26. Right paramere.
 FIGS. 27, 28. *A. panamensis*. 27. Apical margin of seventh tergite in male. 28. Right paramere.
 FIGS. 29-31. *A. fulvescens*. 29. Apical margin of seventh tergite in male. 30. Right half of pygofer.
 31. Right paramere.

third times as wide as long; punctures coarse, finest behind eyes, rather evenly distributed, dense; anterior margin shallowly excavated centrally, intramarginal groove shallow but distinct. Scutellum about one-fourth longer than wide at base, postfrenal margins subparallel, abruptly convergent, apex obtusely angular or subangular, punctures slightly less dense than elsewhere. Hemelytra more densely punctured than elsewhere; membranes slightly exceeding abdominal apex, smoky orange-brown, paler basally, veins slightly darker. Connexivum well exposed, uniformly dark, densely, evenly punctured.

Rostrum dark fulvous, reaching fifth abdominal sternite, second segment barely attaining metacoxae. Legs very dark castaneous, uniformly colored, knees not flavescent. Metapleuron without flavescent callous spot in posterior lateral corner. Abdominal furrow broad, shallow, extending to fifth segment.

Apical margin of terminal abdominal tergite in male (fig. 20) shallowly excavated, with very narrow transverse membrane and fringe of short hairs on lateral thirds; median retrorse process ligulate, twice as long as wide at base, distinctly ampliate beyond middle, apical portion squarish, transverse rugulose, reflexed, extreme apex truncate.

Basal plates of female genitalia similar to those of *variolosus* (fig. 12).

Pygofer stoutly ovate, uniformly convex; central portion of dorsal border shallowly emarginate, border of sinus evenly arcuate, closed end not extending more than about one-fourth of median length of capsule; lateral apical lobes stubby, barely longer than wide at base, dorsal margin slightly elevated; ventral apical margin shallowly sinuate centrally, then abruptly oblique-truncate laterally; submarginal impression broad, shallow; proctiger stoutly cylindrical, dorsal membrane in form of broad band between sclerotized halves, posterior (deflexed) face rotund, surface somewhat flat; head of paramere subquadrangular, deeply sinuate on ental and ectal margins, inner lobes obtusely rounded, ectal ones acutely angular (fig. 21).

Average length to tip of membranes, 14.0 mm.; width across humeri, 8.0 mm.

TYPE: Sex and whereabouts unknown. Type locality: Dominican Republic (Santo Domingo).

DISTRIBUTION: *Dominican Republic*. Mexico: Teapa. *Guatemala*: La Tinta; Chacojo; Panzos. *British Honduras*: Belize. *Panama*: David. *The West Indies*: Trinidad. *French Guiana*: Cayenne. *Surinam*. *Brazil*. *Argentina*: Entre Rios; La Asuncion.

REMARKS: This species is slightly smaller on the average than its close relatives, *mixtus*, *variolosus*, and *fuscus*. The male genital capsule and the parameres are much alike in *piceus*, *mixtus*, and *fuscus*. It seems that the species *piceus* bears the same relationship to *mixtus* as *fuscus* does to *variolosus*, i.e., two are more or less uniformly melanistic while two are distinctly variegated, and two have identical color patterns on the antennae in so much as the terminal two and a half segments are ivory (*variolosus* and *fuscus*), whereas the other two (*mixtus* and *piceus*) have fuscous antennae with merely the joints and a small portion of the apex of segment V ivory. I can find only subtle differences between the genitalia of all of these.

***Antiteuchus marmoreus* (Spinola),
new combination**

Empicoris marmoreus SPINOLA, 1837, p. 283.

Dinocoris marmoreus: STÅL, 1872, p. 9. LETHBRIDGE AND SEVERIN, 1893, p. 86.

Mecistorhinus (Antiteuchus) marmoreus: KIRKALDY, 1909, p. 217.

Antiteuchus marmoreus: RUCKES, 1961, p. 152. New combination.

DIAGNOSIS: Surface glistening yellow; punctures coarse, widely spaced; three basal antennal segments black, segment IV flavescent, with wide central black annulus, segment IV distinctly longer than segment III.

TYPE: Holotype, female, place of deposition of type unknown. Type locality: Brazil.

DISTRIBUTION: *Brazil*.

REMARKS: Unfortunately I have not seen a specimen of this species. The characters given in the foregoing key have been culled from the original description, which is quite complete and satisfactory enough to differentiate *marmoreus* from other species in the genus. According to Spinola, the description was based on a female specimen which he said measures 10.5 mm. in length. This dimension is quite small when compared with dimensions of closely related species and may not be accurate, since Spinola favorably compares

his species *marmoreus* with another discocephaline, *Dinocoris variolosus* (Linnaeus), and claims that these two are of about the same size, i.e., *D. variolosus* measures some 14.0 mm. in length.

Spinola's collection of Heteroptera is housed in the Castello di Tassarola, Novi Ligure, Italy. Investigation there has failed to locate the type specimen from which Spinola created his description, and at present it is believed to be lost.

***Antiteuchus mixtus* (Fabricius)**

Figures 4, 11, 22-24

STOLL, 1788, fig. 173.

Cimex mixtus FABRICIUS, 1787, p. 294. GMELIN, 1788, p. 2151. FABRICIUS, 1794, p. 115.

Edessa mixta: FABRICIUS, 1803, p. 153.

Antiteuchus mixtus: STÅL, 1868, p. 19. RUCKES, 1961, p. 152.

Dinocoris (Mecistorhinus) mixtus: STÅL, 1872, p. 9. LETHIERRY AND SEVERIN, 1893, p. 86.

Mecistorhinus (Antiteuchus) mixtus: KIRK-ALDY, 1909, p. 217. COSTA LIMA, 1940, p. 55, figs. 243, 244 (misidentification; see *A. radians*, new species).

DIAGNOSIS: Semiglossy; color design variegated; convex, coarsely punctured; antennae fuscous, joints between terminal three segments pale, segment IV shorter than III.

DESCRIPTION: Strongly convex, semiglossy; sordid flavescent, punctures ferruginous, fuscous, and black, tending to accumulate in small clusters, especially on hemelytra; beneath castaneous to piceous, middle of each connexival margin with small flavescent spot.

Head as long as greatest width just before eyes, anteocular sinuses shallow, obtuse, margins before them slightly ampliate, apex semicircularly rounded, punctures confused, ferruginous to fuscous. Antennae fuscous to ferruginous, apex of segment V and joints between terminal three segments sordid ivory; segmental ratios: 30/20/80/70/80, i.e., segment II about one-third shorter than I and one-fourth of length of III; segment IV slightly shorter than III.

Pronotum two and one-half times as wide as long, anterior margin shallowly excavated, intramarginal groove shallow but distinct; major portion of disc fuscous or piceous, median band and transhumeral area sordid flavescent; punctures black, coarse, tending

to accumulate in small, irregular, coarse clusters. Scutellum quite convex, apex obtusely angular, more sparsely yet coarsely punctured than elsewhere, convex discal portion with broad, irregular, black, cloud-like fascia. Connexivum exposed, basal and apical portions of each segment fuscous, central area flavescent. Hemelytra with numerous small clusters of black punctures; large, fuscous, discal cloud present; membranes exceeding abdominal apex, clear medium brown, clear at base, veins slightly darker; external apical angle of corium roundly acute.

Venter dusky, thoracic pleura ferruginopunctate. Rostrum medium brown to ferruginous, reaching apical margin of third visible abdominal segment. Legs rusty brown, basal portion of femora conspersed and mottled with fuscous, in some cases tibiae provided with obscure, basal, pale annulus; middle tarsal segment tending to be paler than others. Median abdominal furrow broad, shallow, obscure posteriorly. Central portion of abdominal disc in many cases conspersed with flavescent markings.

Apical margin of terminal abdominal tergite in male (fig. 22) shallowly, evenly sinuate, weakly impressed each side of base of median retrorse process, with narrow transverse membrane and tufts of short hairs on lateral thirds; median retrorse process ligulate, about twice as long as wide at base, slightly ampliate beyond middle, weakly declivous there, apex submembranous, transversely rugulose, weakly reflexed.

Basal plates of female genitalia transversely subtriangular, a little wider than long, lateral angles rounded, apical margins truncate or very feebly sinuate. Essentially the duplicate of the pattern in *A. variolosus* (fig. 12).

Pygofer (fig. 23) broadly ovate; central portion of dorsal border shallowly emarginate, closed end of sinus evenly rounded, extending no more than one-fourth of median length of capsule; lateral apical lobes stubby, about one-third longer than wide at base, apices obtusely rounded, dorsal margin slightly elevated, acute; ventral apical margin sinuate centrally, subtruncate oblique laterally; submarginal impression broad, moderately deep; proctiger short, cylindrical, crest bilaterally tumid, dorsal membrane

rather narrow, basal portion triangular, posterior (deflexed) face subquadrangular, lateral margins obtusely rounded; head of paramere (fig. 24) subquadrangular, slightly concave, ental and ectal margins sinuate, inner two lobes obtusely rounded, external lobes acutely angular.

Average length to tip of membranes, 14.0 mm.; width across humeri, 8.5 mm.

TYPE: Female; deposited in University Zoological Museum, Copenhagen. Type locality: Cayenne, French Guiana.

DISTRIBUTION: *The West Indies*: Trinidad. *Venezuela*. *British Guiana*: Georgetown. *Surinam*. *French Guiana*: Cayenne. *Brazil*: Rio de Janeiro.

REMARKS: The superficial similarity of the two species *mixtus* and *variolosus* is most striking and has caused considerable confusion in attempts to separate the two. The outstanding diagnostic character that will readily segregate the two is the color pattern found in the antennae.

Costa Lima (1940, p. 55, fig. 243) illustrated a species that he identified as *Mecistorhinus* (*Antiteuchus*) *mixtus* Fabricius. Apparently the identification was erroneous, for that figure is of *Antiteuchus radians*, which is described in the present paper as new.

The following 10 species apparently form another natural entity. They are less than 13.0 mm. in length; in every case the tibiae have long hairs; the basal portion of the hemelytral membranes are dark; the antennae are setose, with or without long hairs; and the designs of the parameres are varied.

***Antiteuchus nigricans*, new species**

Figures 25, 26

DIAGNOSIS: Glossy, almost totally piceous, both above and beneath; humeri and pronotal disc concolorous; antennae black, only extreme tip of segment V sordid ivory; antennal segments II and III with long hairs; punctures fine.

DESCRIPTION: Broadly ovate, convex above, glossy black, punctures fine, shallow, densest on head, sparsest on pronotum.

Head as long as greatest width just before eyes; anteocular sinuses obtuse, prominent, margins before them subparallel, not at all ampliate, apex semicircularly rounded; punctures very dense, surface finely rugulose. An-

tennae black, extreme tip of segment V sordid ivory, reaching middle of scutellum, segments II and III with long, erect hairs, each longer than diameter of portion from which it arises; segmental ratios: 35/35/95/95/100, i.e., segment II equal to I, more than one-third, but less than one-half, of length of III.

Pronotum two and one-half times as wide as long, anterior margin shallowly excavated, intramarginal groove prominent, rather deep; vague transverse furrow across disc just behind cicatrices; punctures fine, widely spaced, about five times as far apart as their own diameters; humeri and disc concolorous. Scutellum moderately convex, postfrenal margins subparallel, apex evenly rounded; punctures fine, sparsest on convex basal portion. Hemelytra densely, uniformly punctured, membranes rich fulvous to dark amber, darkening toward base, exceeding abdominal apex, veins darker; external apical angle of corium acute to roundly acute; base of costal margin black. Connexivum moderately exposed, uniformly fuscous to piceous, very densely punctured.

Apical margin of terminal abdominal tergite in male (fig. 25) shallowly sinuate, with narrow transverse membrane and fringe of short hairs across entire width; median retrorse process short, barely half again as long as greatest width, feebly declivous, weakly ampliate beyond middle, then abruptly bent downward, narrowed to form slightly reflexed apical lobule.

Venter almost uniformly fuscous, central area in some specimens a little paler. Head and lateral thoracic areas very densely punctured, posterior lateral corner of metapleuron without calloused flavescent spot. Legs fuscous to piceous, tibiae with bilateral rows of long hairs interspersed between normal setae, the hairs longer than diameter of tibia; femora usually variegated with sparse flavescent markings. Median portion of abdominal disc impunctate, lateral punctures almost obsolete, median furrow broad, shallow, rather vague.

Basal plates of female genitalia subtrapezoidal, a little wider than long, lateral margins almost straight, apical margins very feebly sinuate.

Pygofer short, ovate; central portion of dorsal border mildly emarginate, base of sinus obtusely angled, extending no more than one-

third of median length of capsule; lateral apical lobes parallel to each other, stubby, about half again as long as wide in lateral aspect, apices subacutely rounded; proctiger stout, subcylindrical, dilated at crest, strongly tumid but without pair of tubercles, dorsal membrane prominent, slightly constricted at middle, posterior (deflexed) face roundly quadrilateral, slightly convex; head of paramere (fig. 26) subtriangular, apex of triangle directed dorsally and entally, lateral margins appearing as if squeezed together so that apical surface is folded, ventral margin with deep notch, external margin with small, acute cusp near ventral end.

Length to tip of membranes, 12.0 to 12.25 mm.; width across humeri, 7.0 mm. to 7.5 mm.

TYPES: Holotype, male; Palmira Valley, Colombia; May 5, 1948; deposited in the American Museum of Natural History. Allotype, female; same data as for the holotype. Paratypes (13): Males (10): four with same data as for the holotype. Six as follows: Medellin, Colombia, February 4, 1930 (three); Medellin, 1935 (two); Palmira, 1937 (one); deposited in the United States National Museum. Females (three): Palmira Valley, Colombia, May 5, 1948; deposited in the American Museum of Natural History.

REMARKS: The presence of long hairs on the basal segments of the antennae and on the subsulcal margins of the tibiae apparently ally this species to *A. panamensis* (Ruckes), the only two species in the genus that possess this combination of characters. The black humeri and basal portions of the costal margin of the hemelytra, the apical margin of the terminal male tergite, and the heads of the parameres distinguish the new species from *panamensis*.

***Antiteuchus panamensis* (Ruckes)**

Figures 1, 6, 27, 28

Mecistorhinus panamensis RUCKES, 1959, p. 4.

Antiteuchus panamensis: RUCKES, 1961, p. 152. New combination.

DIAGNOSIS: Glossy, variegated fuscous and flavescent; antennae black, joints and apical half of segment V flavescent, segments II and III with long hairs; humeri and base of costal margin flavescent.

DESCRIPTION: Antennal segments II and III and lateral margins of tibiae with long hairs interspersed between normal setae, hairs in every case longer than diameter of parts from which they arise. Metapleuron without flavescent callus in its posterior lateral corner. Humeri and basal portion of costal margin distinctly flavescent.

Apical margin of terminal abdominal tergite in male (fig. 27) much more deeply sinuate than stated in original description, provided with prominent fringe of long silky hairs, transverse membrane much reduced; median process long, about three times its greatest width, subligulate, declivous, slightly amplate beyond its middle and terminating in small, apical, subreflexed lobe.

Basal plates of female genitalia subtrapezoidal, about one-fourth longer than wide, lateral margins slightly convex, apical margins truncate.

Pygofer stoutly ovate; central portion of dorsal border shallowly emarginate, base of sinus obtusely angular, extending one-fourth of median length of capsule; lateral apical lobes parallel to each other, half again as long as greatest width, apices subobtuse, outer surfaces somewhat flattish; ventral apical margin shallowly, broadly sinuate; submarginal impression rather wide and shallow; proctiger stout, short, subcylindrical, crest timid or very obtusely bulbous, devoid of tubercles, dorsal membrane prominent, subrhomboidal at base, narrowed to median band reaching crest, posterior (deflexed) face roundly quadrangular, slightly convex; head of paramere (fig. 28) subquadrangular, with recurved, dorsal-ental, narrow, strap-shaped lobe, ventral margin obtusely rounded, ectal margin sinuate, producing dorsal and ventral acutely triangular lobes.

Average length to tip of membranes, 13.0 mm.; width across humeri, 8.0 mm.

TYPES: Holotype, male. Allotype, female. Paratypes (12). All deposited in the American Museum of Natural History. Type locality: Barro Colorado Island, Canal Zone, Panama.

DISTRIBUTION: *Panama:* Barro Colorado Island; Gatun; Colon; Chiva Chiva; Chorera; David.

REMARKS: Since the original description was published, further study of this species has revealed the above important characters

that were not included at that time, and the nature of the terminal margin of the last abdominal tergite and the structure of the pygofer are described. These should be added to the original description for the sake of completeness.

The form of the paramere is suggestive of the pattern seen in *mixtus-piceus-fuscus*, from which it is possible that *panamensis* was derived.

***Antiteuchus fulvescens*, new species**

Figures 29–31

DIAGNOSIS: Ovate, depressed, small, glossy, uniformly pale reddish brown or fulvous, punctures slightly darker, fine, evenly distributed, dense; antennae uniformly fulvous; scutellum with small flavescent point at each basal angle.

DESCRIPTION: Head subequal to greatest width just before eyes, anteocular sinuses shallow, obtuse, margins before them gradually arcuate, apex evenly rounded; punctures dense, somewhat confused, closer together than their own diameters; eyes and ocelli dull reddish brown. Antennae medium brown, basal three segments without long hairs; segmental ratios: 25/20/60/—/—, i.e., segment II slightly shorter than segment I, about one-third of length of III.

Pronotum little less than two and one-half times as wide as long, anterior margin shallowly excavated centrally, intramarginal groove well developed, shallow transverse furrow extending across disc just behind cicatrices; punctures sparser than elsewhere, those on central portion about four times as far apart as own diameters; humeral angles roundly rectilinear. Scutellum depressed, postfrenal margins gradually converging, apex evenly rounded, reaching sixth abdominal tergite in male; punctures twice as far apart as their own diameters; basal angles weakly infuscated and having small, flavescent point. Hemelytra evenly, densely punctured, punctures as close together as their own diameters; free apical margin of corium feebly sinuate, external apical angle acutely rounded; membranes slightly exceeding abdomen, clear, very pale, smoky yellow, bases and veins concolorous. Connexivum narrowly exposed, uniformly fulvous, densely punctured. Tergum rich fulvous.

Apical margin of terminal abdominal tergite in male (fig. 29) shallowly sinuate, bordered with insignificant membrane and very obsolescent fringe of short hairs; median retorse process feebly declivous, merely continuing gentle curvature of abdomen, distinctly ligulate, lateral margins parallel, about twice as long as wide, apex triangular, not transversely rugose, very feebly reflexed.

Venter more yellowish than dorsum, punctures fine, dense, slightly darker than background; evaporatorium darker brown, matte; metapleuron without flavescent calloused spot in posterior corner. Coxae sordid flavescent, femora, tibiae, tarsi concolorous, essentially uniformly fulvous; tibiae with long hairs interspersed between normal setae. Rostrum brownish fulvous, terminal two segments lacking. Abdomen impunctate centrally, lateral punctures fine, shallow, median furrow broad, most clearly defined on basal two sternites; spiracles piceous; vague band of infuscated clouding extending longitudinally through spiracular region.

Pygofer (fig. 30) ovate; central portion of dorsal border shallowly emarginate, crescentic in form, sinus barely more than one-fifth of median length of capsule; lateral apical lobes stubby, hardly half again as long as wide at bases, parallel to each other, apices narrowly rounded; ventral apical margin broadly and shallowly sinuate; submarginal impression shallow; proctiger subglobular, dorsal membrane triangular, crest stoutly tumid, hirsute but without tubercles, posterior (deflexed) face rotund, feebly convex; head of paramere (fig. 31) small, in apical aspect irregularly quadrilateral or subrhomboidal, with two unequal ventral lobules separated by a deep notch, inner one flat, subspatulate, outer one shorter, acute, triangular.

Length to tip of membranes, 8.5 mm.; width across humeri, 4.75 mm.

TYPE: Holotype, male; Rio Santiago, Peru; September 5, 1930; H. Bassler, collector; deposited in the American Museum of Natural History.

REMARKS: The small size, depressed form, shining reddish brown color, with fine, almost concolorous punctures, as well as the small flavescent points on the basal angles of the scutellum and the distinctive form of the paramere, readily separate this species from

its close allies. The shortness of the second antennal segment, the long hairs on the tibiae, and the bilobed paramere apparently relate this species to *A. sepulcralis* (Fabricius).

***Antiteuchus sepulcralis* (Fabricius)**

Figures 32, 33

STOLL, 1787, fig. 94.

Edessa sepulcralis FABRICIUS, 1803, p. 152.

Antiteuchus luctuosus STÅL, 1855, p. 182; 1856, p. 58.

Antiteuchus sepulcralis: STÅL, 1868, p. 19. RUCKES, 1961, p. 152.

Dinocoris (*Mecistorhinus*) *sepulcralis*: STÅL, 1872, p. 8. LETHIERRY AND SEVERIN, 1893, p. 86.

Mecistorhinus sepulcralis: KIRKALDY, 1909, p. 217.

DIAGNOSIS: Not more than 12.0 mm. in length, variable in color; antennal segment II not more than one-fourth of length of segment III, usually less; surface of pronotum roughish; paramere bilobed; median retrorse process of terminal male tergite elongated, prominent.

DESCRIPTION: Subdepressed, moderately small, ranging from 10.0 mm. to 11.0 mm. in length; dark brown to piceous, some specimens paler, stippled, partially lineated, or variegated.

Head finely, densely punctured, obliquely rugulose. Antennae fuscous, terminal portion of apical segment sordid pale; basal three segments with semi-erect setae but lacking long hairs; segment II half of length of I, and usually one-fifth of length of III; segmental ratios somewhat variable.

Anterior margin of pronotum shallowly excavated, intramarginal groove distinct; disc somewhat roughish, punctures small but prominent, not evenly distributed; disc with shallow transverse furrow behind cicatrices. Scutellum attaining apical margin of seventh tergite in male, basal portion more sparingly punctured than lateral and apical portions; apex evenly rounded. Hemelytra more densely punctured than elsewhere, external apical angle of corium acute. Connexivum narrowly exposed, finely punctured. Tergum castaneous.

Apical margin of seventh abdominal tergite in male shallowly sinuate, impressed at lateral ends, bordered with a dense fringe of short, pale hairs and narrow transverse mem-

brane; median retrorse process feebly declivous, prominent, ligulate, about three times as long as greatest width, lateral margins feebly concave, apical portion ampliate, extreme apex obtusely rounded or angular, not reflexed (fig. 32).

Venter castaneous or paler; thoracic punctures coarser than abdominal ones; thoracic pleura provided with flavescent stipples or vermiculate markings; legs castaneous to testaceous, femora marmorate or stippled, tibiae uniform in color, with bilateral rows of long hairs, tarsi uniformly colored. Lateral portion of abdominal venter frequently darker than central portion, or concolorous; median rostral furrow very vague, broad, and shallow.

Basal plates of female genitalia subtriangular, slightly wider than long, lateral angles obtusely rounded, apical margins straight.

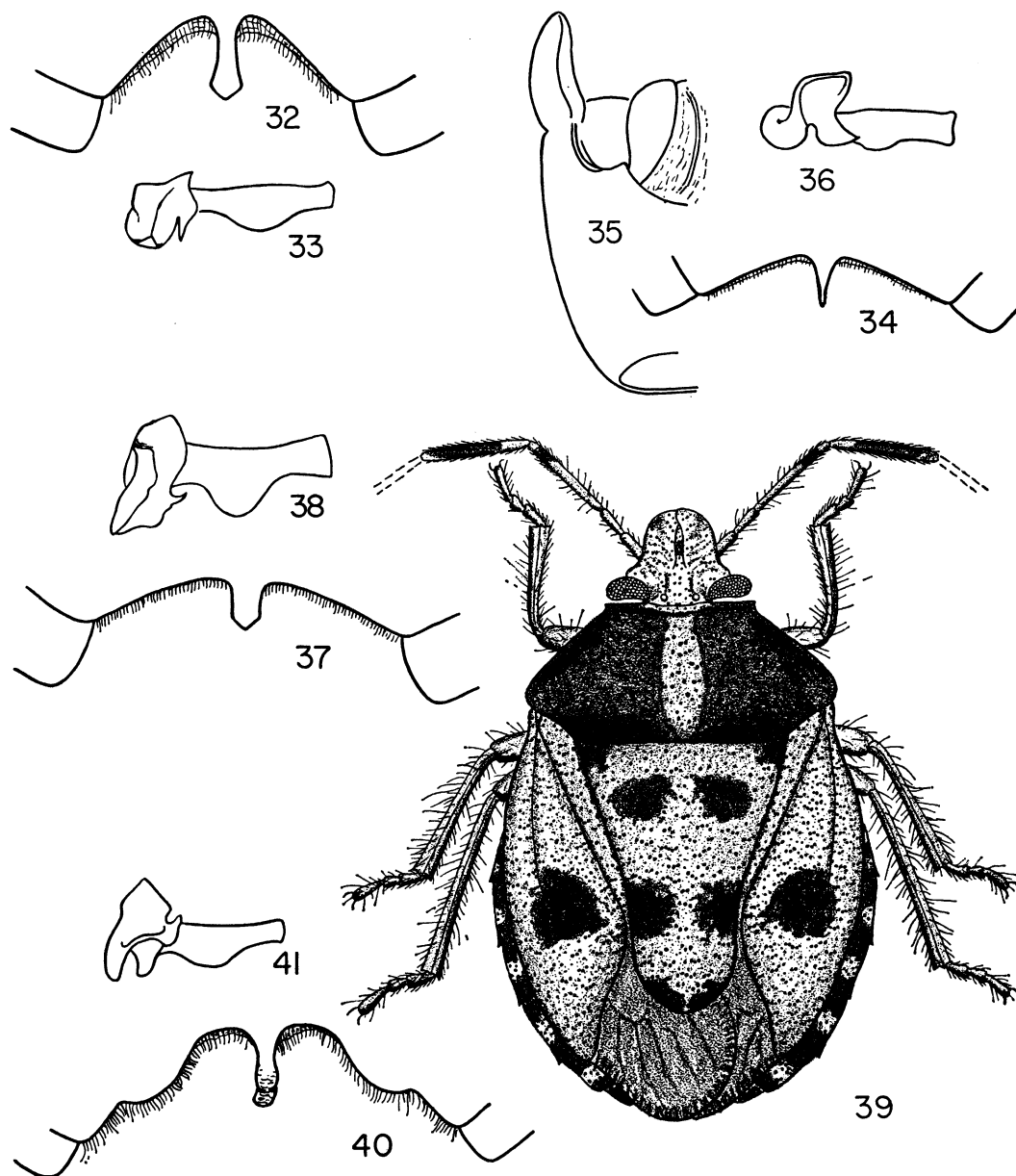
Pygofer stoutly ovate, evenly convex; central portion of dorsal border moderately emarginate, closed end of sinus obtusely angular, not surpassing one-third of median length of capsule; lateral apical lobes stout, stubby, less than half again as long as wide, outer faces elliptical, feebly convex, apices obtusely rounded; ventral apical margin truncate, not produced; submarginal impression shallow; proctiger (dorsal aspect) stoutly cylindrical, short, about half again as long as wide, crest bilaterally tumid, hirsute, lacking tubercles; membranous portion conspicuous, rhomboidal at base, continued to crest as broad band; head of paramere (fig. 33) small, surface in apical aspect undulant, unequally bilobed, separated ventrally by deep, narrow notch, outer lobe smaller, narrow, terminating in ventral acute spur.

Average length, 10.75 mm.; width across humeri, 5.8 mm.

TYPE: Holotype, female; deposited in the University Zoological Museum, Copenhagen. Type locality not specified.

DISTRIBUTION: *French Guiana:* Cayenne. *Surinam:* Paramaribo. *British Guiana:* Georgetown. *The West Indies:* Trinidad; Port of Spain; St. Augustine; Coparo. *Venezuela:* Caripito. *Peru:* Rio Santiago. *Bolivia:* Chapare. *Brazil:* Manaos.

REMARKS: This species is predominantly dark brown (as the name *sepulcralis* implies), but inspection of numerous specimens in col-



FIGS. 32, 33. *A. sepulchralis*. 32. Apical margin of seventh tergite in male. 33. Right paramere.
 FIGS. 34–36. *A. tripterus*. 34. Apical margin of seventh tergite in male. 35. Right half of pygofer. 36. Right paramere.
 FIGS. 37, 38. *A. melanoleucus*. 37. Apical margin of seventh tergite in male. 38. Right paramere.
 FIG. 39. Facies of *A. pictus*.
 FIGS. 40, 41. *A. costaricensis*. 40. Apical margin of seventh tergite in male. 41. Right paramere.

lections from several museums reveals specimens that are ferruginous, even testaceous, in color, with various stipples and partial lineations. The color design in this species nearly duplicates that in *A. tripterus* (Fabricius) in both range of variation and pattern.

The more roughened surface of the pronotum, the form of the paramere, shortness of the second antennal segment, as well as the form of the median retrorse tergal process in the male, are the most obvious characters by which to separate the two species.

***Antiteuchus tripterus* (Fabricius)**

Figures 8, 9, 34-36

Cimex tripterus FABRICIUS, 1787, p. 294.

Edessa tripterus: FABRICIUS, 1803, p. 153.

Dinidor punctiger WESTWOOD, 1837, p. 25.

Cataulax apicalis ERICHSON, 1848, p. 609.

Antiteuchus punctiger: DALLAS, 1851, p. 164.

Antiteuchus tripterus: STÅL, 1868, p. 19. RUCKES, 1961, p. 152.

Cataulax centralis WALKER, 1868, pt. 3, p. 566.

Dinocoris tripterus: STÅL, 1868, p. 19. DISTANT, 1880-1893, p. 46, pl. 5, fig. 3. LETHIERRY AND SEVERIN, 1893, p. 86.

Mecistorhinus tripterus: KIRKALDY, 1909, p. 217.

Mecistorhinus lineatus RUCKES, 1959, p. 2.

DIAGNOSIS: Less than 12.0 mm. in length; color pattern very variable, lineated to uniformly dusky, or variegated; pronotum smooth; antennal segment II slightly more than half of length of I and more than one-fifth of length of V; paramere trilobed.

DESCRIPTION: Moderately small, somewhat depressed, semiglossy, pronotum smooth. Color very variable, flavescent, with fine reddish and dark brown punctures in longitudinal lines on hemelytra and transverse vermiculate markings on pronotum and scutellum, or in some cases totally dusky or variegated, with darker color predominating. In many specimens four minute, flavescent, subcalloused points on pronotum, two on anterior margin behind ocelli, two on disc lateral to cicatrices. Many specimens with percurrent, pale, median band intersecting similar transverse band across base of scutellum, a pattern recurring in several other species of genus. Antennae fuscous to piceous, joints concolorous, apical half of terminal segment sordid ivory, basal three segments with erect setae, none longer than diameter of segments;

segment II a little shorter than I, and in most specimens more than one-fourth of length of III; segmental ratios variable.

Pronotum rather smooth, with very vague transverse furrow across disc behind cicatrices; punctures fine, not overly dense, rather evenly distributed. External apical angle of corium narrowly rounded.

Apical margin of terminal abdominal tergite in male (fig. 34) evenly, shallowly excavated, bordered with a narrow fringe of short hairs and barely visible transverse membrane; median retrorse process small, hardly twice as long as wide at base, rapidly tapering, distinctly declivous, apex acute, reflexed.

Venter variable, lateral areas of abdomen darker or paler than central portion; punctures fine. Legs flavescent, in darker forms fuscous, tibiae spotted with rows of fuscous dots, with long hairs interspersed between shorter setae; tarsi more or less uniformly colored. Metapleuron lacking flavescent callus in posterior lateral corner.

Basal plates of female genitalia subtrapezoidal, lateral margins slightly longer than those of *sepulcralis*, apical margins straight and in many specimens appearing as if impressed into adjacent abdominal surface.

Pygofer (figs. 9, 35) ovate, more or less evenly convex; central portion of dorsal border shallowly emarginate, sinus evenly arcuate or very vaguely angular, reaching less than one-third of median length of capsule; lateral apical lobes stubby, parallel to each other, barely half again as long as wide, in lateral aspect narrowly ovate, apices subobtusely rounded; proctiger short, stout, subcylindrical, about half again as long as wide, crest bilaterally tumid, pilose, without tubercles; ventral apical margin feebly sinuate centrally, not produced; submarginal impression shallow; head of paramere (fig. 36) large, stout, trilobate, upper two lobes subcircular, intersecting each other at right angles, lower (ectal) lobe smaller, subtriangular, with acute apex, three lobes taken together suggesting form of diminutive, three-bladed propeller.

Average length to tip of membranes, 10.75 mm.; width across humeri, 5.75 mm.

TYPE: Female; deposited in the University Zoological Museum, Copenhagen. Type locality: Cayenne, French Guiana.

DISTRIBUTION: *French Guiana*: Cayenne. *Surinam*. *British Guiana*: Georgetown; Demerara. *The West Indies*: Trinidad: St. Augustine; Port-of-Spain. *Venezuela*: Macuto; La Guaira; La Florida; Caracas. *Panama*: Taboga Island; Panama City; Ancon; La Chorrera; Santa Cruz; Cristobal; Colon; Matachin; Barro Colorado Island. *Colombia*: Cali. *Peru*. *Paraguay*. *Brazil*: São Paulo.

REMARKS: Any attempt to separate this species from *A. sepulcralis* (Fabricius) on the basis of size, color, design, antennal segmental ratios, and form of the female genital plates is impossible. Differences in the form of the terminal tergal margin in the male and the shape of the head of the paramere are the only reliable criteria by which the two can be separated.

When studied from a large enough series it can be seen that the color and color patterns of the two species show parallel trends; some specimens of *tripterus* are darker than specimens of *sepulcralis* and conversely some specimens of the latter exhibit spotting and lineations which approach the color design of the former. The median flavescent band through the pronotum intersecting a similar transverse band across the base of the scutellum is a color pattern that recurs in a number of other species in this genus and apparently led Distant to misidentify some specimens as *tripterus*. His figure (Distant, 1880-1893, pl. 5, fig. 3) is not *tripterus* but a new species from Costa Rica that is described in the present paper.

The relative lengths of the various antennal segments is not so reliable a character as could be wished. While, for the most part, the second antennal segment of *tripterus* is a little longer than that of *sepulcralis*, I have found numerous specimens in which it is shorter, or some specimens of *sepulcralis* in which it is more than one-fourth of the length of the third segment, a point overlooked by Stål in attempting to distinguish the two species.

The Fabrician type specimen is badly mutilated; hence the foregoing redescription is based on a composite of numerous examples found in many museums here and abroad.

In a species as common and widespread as *tripterus*, it might be expected that geographic subspecies would occur; one such is herein

described. Only further intensive study will determine whether or not others should be established.

***Antiteuchus tripterus limbiventris*,
new subspecies**

DIAGNOSIS: Above fuscous, with central portion of head, median band on pronotum, and disc of scutellum suffused with orange-brown; beneath, castaneous, wide lateral margin of abdomen rich orange-ochraceous; other characters as in primary species.

DESCRIPTION: Ovate, subdepressed, 11.0 mm. in length, glossy; fuscous above, castaneous or darker beneath; central portion of head, broad median band of pronotum, and wide central area of scutellum gradually becoming orange-brown; central portion of abdominal venter glossy, lateral portions (submarginal) matte with wide, finely punctured, orange-ochraceous border, inner margin of which is erose, not quite reaching line of spiracles; evaporatorium matte, suffused with orange-brown. Antennal segments uniformly black, only extreme tip of terminal segment sordid ivory; segmental ratios: 25/20/70/70/75, i.e., same as in primary species, segment II one-fifth shorter than I, more than one-fourth of length of III.

Pronotum nitidous, smooth. Apex of scutellum tending to be slightly angular. Hemelytra uniformly fuscous or darker, punctures more regular than elsewhere; membranes smoky brown, darkening basally, slightly exceeding apex of abdomen. Connexivum orange-brown, finely, densely punctured.

Bucculae and under surface of jugs flavescent. Thoracic pleura glossy, densely punctured; evaporatorium matte, suffused with orange-brown, metapleuron without calloused flavescent spot in posterior corner. Mesosternum, metasternum, acetabula, and coxae pallid. Legs uniformly fuscous or darker, femora obscurely variegated near their apices, tibiae with long hairs interspersed between shorter setae, tarsi in some specimens fulvescent.

Other characters, including median retrorse process on tergal margin in male, pygofer, and parameres, identical to those of primary species.

Average length to tip of membranes, 10.75

mm.; width across humeri, 5.5 mm.; greatest abdominal diameter, 6.5 mm.

Types: Holotype, male; Cali, Colombia; June 6, 1948; Erik M. Paulsen, collector; deposited in the University Zoological Museum, Copenhagen. Allotype, female; same data as for holotype. Paratypes (44): Males (31): Cali, Colombia, June 16, 1948 (two), March, 1948 (one), deposited in the University Zoological Museum, Copenhagen; February 14, 1940 (one), May 18, 1948 (one), no date (three), deposited in the American Museum of Natural History. Cali Valley, Colombia, April 27, 1939 (two), deposited in the United States National Museum. Palmira, Colombia, June 13, 1955 (21), deposited in the American Museum of Natural History. Females (13): Cali, Colombia, March–June, 1945 (five), one deposited in the American Museum of Natural History, four deposited in the University Zoological Museum, Copenhagen. Palmira, Colombia, September 3, 1958 (eight), deposited in the American Museum of Natural History.

***Antiteuchus melanoleucus* (Westwood)**

Figures 37, 38

Dinidor melanoleucus WESTWOOD, 1837, p. 24.

Empicoris Renggerii HERRICH-SCHAEFFER, 1844 (1835–1844), vol. 8, p. 45.

Antiteuchus melanoleucus: DALLAS, 1851, p. 164. RUCKES, 1961, p. 152.

Antiteuchus nigricornis STÅL, 1858, p. 18; 1859, p. 233.

Dinocoris (Mecistorhinus) melanoleucus: STÅL, 1872, p. 8. LETHIERRY AND SEVERIN, 1893, p. 86. BOSQ, 1937, p. 122; 1940, p. 407.

Mecistorhinus melanoleucus: KIRKALDY, 1909, p. 217.

DIAGNOSIS: Smooth, glossy, convex, mottled flavescent and fuscous, most punctures shallow, unevenly distributed, antennae uniformly black, segment II distinctly shorter than segment I, about one-fourth of length of segment III.

DESCRIPTION: Narrowly ovate, quite convex, glossy; flavescent, with castaneous, fuscous, or black patches on pronotum, scutellum, and coria, broad black fascia across anteapical third of body, some specimens uniformly dark, with small, flavescent markings and pale points; punctures variable, fine to coarse, irregularly distributed. Antennae

setose, without long hairs, entirely black, segment II three-fourths of length of I, and slightly more than one-fourth of length of III. Hemelytral membranes exceeding abdominal apex, clear rich brown, darkening toward base. Connexivum moderately exposed, in typical forms distinctly alternated, central portion of each segment impunctate flavescent, borders of sutures fuscous and punctured, in darker forms flavescent center obsolete.

Apical margin of terminal abdominal tegite in male (fig. 37) shallowly emarginate, apparently without transverse membrane but with fringe of short hairs; median retrorse process not declivous, merely continuing gently curvature of body, stubby, slightly longer than wide, margins parallel, apex rectilinear.

Venter mottled. Metapleuron without flavescent calloused spot in posterior lateral corner. Legs fuscous, tibiae with broad, central, pale annulus, obsolete in darker forms.

Basal plates of female genitalia roundly triangular, lateral margins arcuate, or obtusely rounded.

Pygofer ovate, feebly depressed; central portion of dorsal border shallowly emarginate, closed end of sinus angular, not extending more than one-third of median length of capsule; lateral apical lobes parallel to each other, stubby, barely longer than wide, outer faces convex, apices obtusely rounded; ventral apical margin shallowly sinuate; submarginal impression shallow; proctiger in dorsal aspect stout, cylindrical, crest slightly tumid, hirsute, basal portion of membrane rhomboidal, abruptly narrowed toward crest; head of paramere (fig. 38) narrow, irregularly fusiform from apical aspect, surface somewhat undulant, external (lateral) face with vertical groove, anterior margin of which bears a small, curved, acute denticle near ventral end.

Length to tip of membranes, 14.0 mm.; width across humeri, 7.5 mm.

TYPE: Holotype, female; deposited in the Zoological Museum, Hope Department of Entomology, Oxford University. Type locality: Brazil.

DISTRIBUTION: *Brazil:* Rio de Janeiro; Bahia. *Bolivia:* Santa Cruz; Buena Vista. *British Guiana:* Essiquibo River. *Peru:* Tingo Maria. *Argentina:* Tucuman.

REMARKS: This species appears to have a wide distribution and varied habitat, ranging from the eastern coast of South America to the subandean region of Peru and Argentina. Oddly enough, I have seen no records of this species from Venezuela, Colombia, or Ecuador, but surmise that it exists there.

Bosq (1937) wrote that in Argentina this bug has been found feeding on poplar (*Populus*) and sycamore (*Platanus*).

This species, like many others in the genus, is very variable in color and design. The type specimen is flavescent and black. I have seen few examples that are duplicates or so contrastingly colored. Many specimens tend to be much darker than the type, with the yellow markings reduced to speckles or small patches. The rather convex form, glossy appearance, and totally black antennae, of which the second segment is clearly shorter than the first and third, are characters by which this species is most readily recognized.

***Antiteuchus pictus*, new species**

Figure 39

DIAGNOSIS: Length 12.0 mm.; glossy, brilliant ochraceous and black; pronotum black, with broad, median, ochraceous band, scutellum and hemelytra ochraceous, with large black spots, broad lateral portion of abdominal venter black; antennae ochraceous, terminal three segments annulated with fuscous; legs uniformly ochraceous.

DESCRIPTION: Ovate; medium size; glossy ochraceous, pronotum black, with wide, median, ochraceous band; scutellum with basal angles, four large discal and two smaller apical spots black, hemelytra with large, subcircular, discal spots black; median ventral area of thorax and abdomen fulvescent, lateral portions black; legs uniformly ochraceous.

Head pale ochraceous, as long as wide just before eyes, anteocular sinuses obtuse, well developed, margins before them feebly ampliate, apex more or less broadly rounded; punctures fine, denser than elsewhere, concolorous or very feebly darker than background, fine oblique rugae between punctures, central line on tylus infuscated. Antennae ochraceous, normally setose, without long hairs, segment III with narrow subapical fus-

cous annulus, segment IV with broad central fuscous annulus, apical portion of segment V missing; segmental ratios: 20/20/60/60/?60, i.e., segment II equal to I, one-third of length of III, terminal three segments possibly subequal.

Pronotum about two and one-fourth times as wide as long; anterior margin barely excavated centrally, intramarginal groove prominent, deep; disc uniformly convex, smooth, punctures uniform in size, fine, about twice as far apart as their own diameters; posterolateral margins narrowly ochraceous. Scutellum slightly less than one-fifth longer than wide at base; basal angles piceous, impressed; punctures pale ferruginous, sparsest on basal region; apex rather broadly rounded. Hemelytra rather evenly punctured; external apical angle of corium roundly acute, exceeding apex of scutellum, membranes exceeding margin of abdomen, pale amber, darkening basally, veins slightly darker. Connexivum narrowly exposed, fuscous to piceous, finely, densely punctured, middle of each segment ochraceous.

Under surface of head, acetabula, coxae, sterna, and legs ochraceous. Rostrum bright ochraceous, apex fuscous, reaching middle of fourth visible abdominal segment. Metapleuron without flavescent calloused spot in posterior lateral corner. Central portion of abdominal disc fulvescent, lateral portions, as well as thoracic pleura, piceous. Punctures on thorax dense, confused; central portion of abdomen impunctate, lateral punctures very fine, obsolescent. Median furrow well defined, extending to sixth sternite.

Basal plates of female genitalia triangular, little wider than long; lateral angles narrowly rounded, apical margins very feebly sinuate.

Length to tip of membranes, 12.0 mm.; width across humeri, 7.0 mm.

TYPES: Holotype, female; Yarimaguas, Peru, 1866; Sallé, collector; deposited in the National Museum of Natural History, Paris. Paratype, female; same data as for the holotype; deposited in the American Museum of Natural History.

REMARKS: The lack of a male specimen prevents pinpointing the exact phyletic position of this species. The presence of long hairs on the tibiae, the lack of them on the basal segments of the antennae, and the intermediate

size seem to place this species close to *trip-terus* and *sepulcralis*. The contrasting black and ochraceous design immediately distinguishes this species from all others.

***Antiteuchus costaricensis*, new species**

Figures 40, 41

DIAGNOSIS: Antennae black, joints narrowly flavescent, apical third of fifth segment pale, segments II and III setose, without long hairs; humeri and base of costae not flavescent; antennal segment II shorter than I, less than one-fourth of length of III.

DESCRIPTION: Ovate, rather mildly convex to subdepressed; glossy, punctures fine, dense, particularly on head and hemelytra; color design both above and beneath very variable, ranging from sordid flavescent or fulvous with ferruginous and fuscous punctures and reticulations to castaneous or fuscous with scattered flavescent points, some specimens almost uniformly dark.

Head as long as greatest width just before eyes, anteocular sinuses obtuse, apex semi-circularly rounded; punctures fine, very dense, congested with numerous pale points evident even in darkest forms. Antennae piceous, apical third of terminal segment sordid ivory, joints between segments very narrowly pale, in some cases concolorous; segments II and III setose, without long hairs; segmental ratios: 30/20/90/90/100, i.e., segment II shorter than I and less than one-fourth of length of III.

Pronotum about two and one-half times as wide as long, anterior margin shallowly excavated, intramarginal groove thin, its lateral ends terminating in minute flavescent spot except in darkest forms; punctures about three times as far apart as their own diameters; many specimens having broad, median, flavescent, or reddish band intersecting a similar transverse band across base of scutellum and two small calloused points on disc. Scutellum one-third longer than wide at base, apex evenly rounded, attaining sixth tergite in female, seventh in male; punctures sparsest on convex basal portion. Hemelytra more densely punctured, punctures about as far apart as their own diameters; widely scattered pale points always in evidence, in paler forms corium having large, irregular, fulvous

disal spot; membranes exceeding abdomen, pale to medium brown, darkening toward base, veins slightly darker. Connexivum narrowly exposed, flavescent, densely punctured, sutures broadly banded with fuscous.

Apical margin of terminal abdominal tergite in male (fig. 40) deeply sinuate each side of median retrorse process, laterally somewhat wavy, with fringe of short hairs but barely visible transverse membrane; median process mildly declivous, ligulate, about three times as long as greatest width, weakly ampliate beyond middle, apical portion obtusely rounded and reflexed.

Venter flavescent, ochraceous, or fuscous, abdominal disc in paler forms abundantly speckled; thoracic pleura conspicuously variegated, punctures deep, dense, coarser than on dorsum; metapleuron without flavescent calloused spot in posterior lateral corner. Rostrum reaching apical margin of second abdominal segment. Legs fulvescent, femora and tibiae covered with coalescent fuscous markings, tibiae provided with long hairs interspersed between normal setae, tarsi pale, joints infuscated. Lateral portion of abdomen between margin and spiracles matte, finely punctured, central portion of disc glossy, impunctate; a minute flavescent point mesiad of each pair of trichobothria; median furrow vague, extending to fifth abdominal sternite.

Basal plates of female genitalia subtrapezoidal, wider than long, apical margins straight.

Pygofer depressed ovate; central portion of dorsal border shallowly excavated, sinus evenly arcuate, extending one-fifth of length of capsule; lateral apical lobes parallel to each other, stubby, barely longer than greatest width, outer surfaces convex, apices obtusely rounded; ventral apical margin shallowly sinuate centrally; submarginal impression quite shallow, hardly impressed; proctiger, from dorsal aspect, stubby, short cylindrical, about half again as long as wide, crest bilaterally tumid, pilose, without tubercles, dorsal membrane wide, posterior (deflexed) face squarish, lateral margins obtusely rounded; head of paramere (fig. 41) quadrilateral in apical aspect, four-lobed, with a low carina extending from inner upper corner to outer lower corner across concave posterior face.

Length to tip of membranes, 11.5 mm.; width across humeri, 6.75 mm.

TYPES: Holotype, male; Turrialba, Costa Rica, June 16, 1948; Franz Schrader, collector; deposited in the American Museum of Natural History. Allotype, female; same data as for holotype, but May 21, 1944. Paratypes (37): Males (19): *Costa Rica*: Turrialba, October 23, 1951 (one), no date (six); Zent Limon, June 30, 1956 (four); Puntarenas, May 7, 1934 (four); Guapiles, December 16, 1916 (one). *Panama*: Bocas del Toro, 1923 (three). All 19 males deposited in the United States National Museum except two from Turrialba and one from Zent Limon which are deposited in the American Museum of Natural History. Females (18): *Costa Rica*: Turrialba, October 3, 1951 (one), no date (six); Puntarenas, May 7, 1934 (three); Siquirres, May 21, 1944 (one); Sarapiquí, 1900 (one). *Panama*: Bocas del Toro, no date (one); also five specimens taken at quarantine ports in the United States and labeled as coming from Costa Rica. All 18 females deposited in the United States National Museum except three specimens which are deposited in the American Museum of Natural History.

DISTRIBUTION: *Costa Rica*: Turrialba; Zent Limon; Puntarenas; Guapiles; Siquirres; Sarapiquí. *Panama*: Bocas del Toro.

REMARKS: This species is similar in appearance to *A. panamensis* but is slightly smaller, lacks the flavescent humeri, flavescent bases of hemelytral costae, long hairs on the antennae, and the broad pale annuli on the antennal joints, as well as differently proportioned parameres, which in *costaricensis* have a low, oblique carina across their apical faces.

The species identified as *A. tripterus* (Fabricius) by Distant (1880-1893, pl. 5, fig. 3) is in reality this species.

Specimens have been taken from banana and cacao.

***Antiteuchus maculosus*, new species**

Figures 45, 46

DIAGNOSIS: Moderately large, 14.0 mm. in length; very glossy, smooth; antennal segment II subequal to I and more than one-third of length of III; large patch of aggregated, irregular, vermiculated ivory markings at apex of corium.

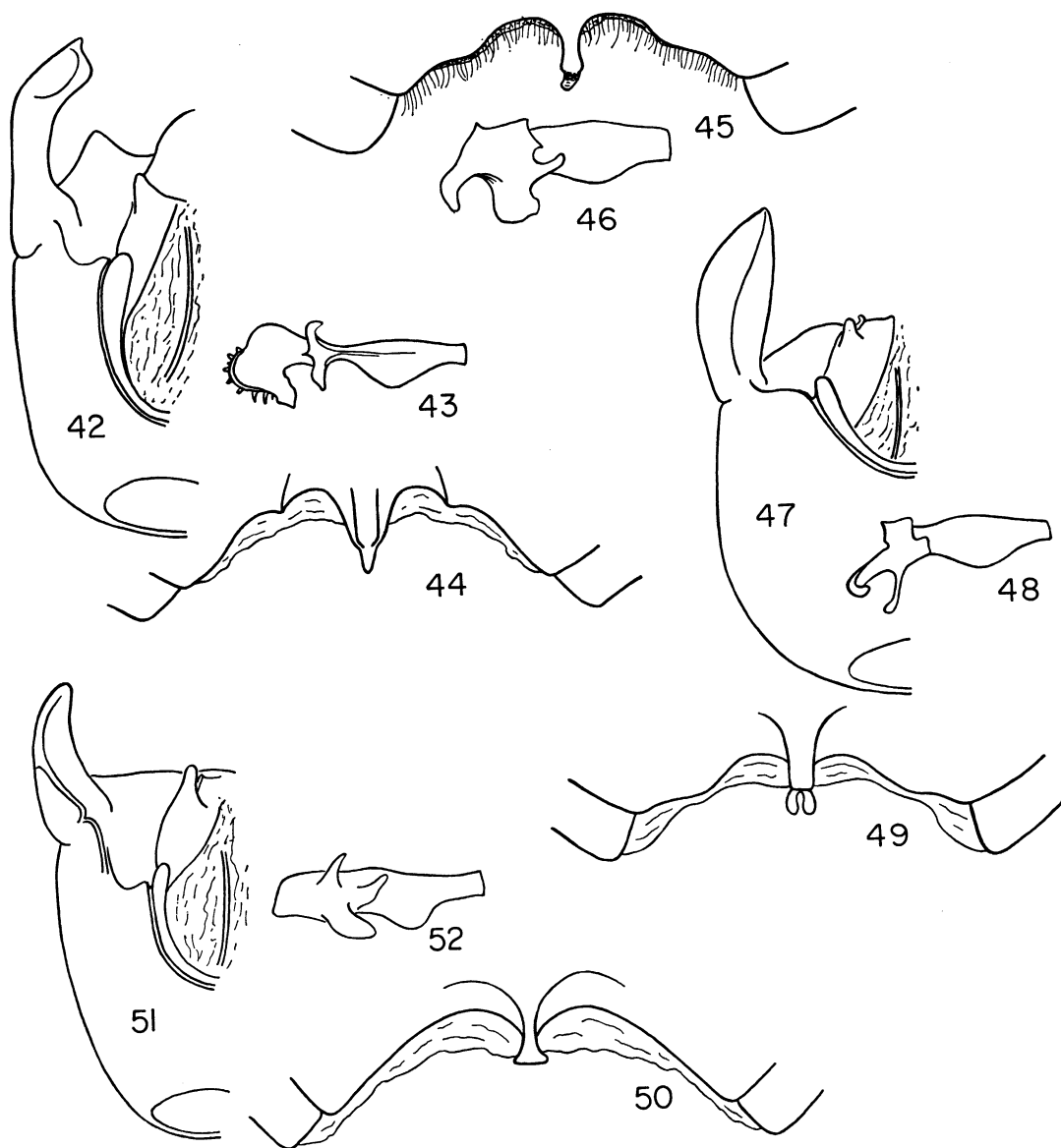
DESCRIPTION: Flavescent, extensively clouded with fulvous and fuscous patches, producing spotted appearance; beneath extensively stippled. Punctures above moderately fine, somewhat irregularly distributed, from two to three times as far apart as their diameters.

Head equal to greatest width just before eyes, anteocular sinuses well developed, margins before them parallel, apex semicircularly rounded; punctures ferruginous, many lenticular in outline, irregularly disposed, leaving numerous flavescent points between them; tylus and vertex castaneous. Antennae fuscous, upper surface of segment I, joints between II and III, and narrow annulus at base of IV sordid ivory, segment V missing; segments II and III without long interspersed hairs; segmental ratios: 30/32/85/90/—.

Pronotum two and one-third times as wide as long; anterior margin barely excavated, intramarginal groove deep, prominent, disc vaguely impressed behind cicatrices; punctures widely spaced, some as much as five times as far apart as own diameters; major portion of disc dark, with scattered flavescent markings and median fulvous band; humeri concolorous with disc. Scutellum mildly convex, about one-fourth longer than wide, postfrenal margins parallel, apex vaguely obtusely angular; punctures irregularly distributed, about twice as far apart as own diameters, numerous flavescent markings evident. Hemelytra more regularly punctured, a cluster of irregular, vermicular, flavescent markings at apex of each corium; membranes exceeding abdominal apex, uniformly smoky fulvous, concolorous at base, veins few, darker. Connexivum narrowly exposed, fulvous, densely punctured, sutures banded with fuscous, center of each segmental margin yellow. Tergum fulvous, finely, sparsely punctured.

Apical margin of terminal abdominal tergite in male (fig. 45) shallowly bisinuate each side of median retrorse process, with fringe of long, delicate hairs, transverse membrane obsolescent; median retrorse process distinctly declivous, ligulate, about twice as long as wide, margins subparallel, hardly ampliate beyond middle, apical end abruptly narrowed, rugulose, obtuse, weakly reflexed.

Under surface of head flavescent, with two parallel rows of brown punctures each side of



FIGS. 42-44. *A. amplus*. 42. Right half of pygofer. 43. Right paramere. 44. Apical margin of seventh tergite in male.

FIGS. 45, 46. *A. maculosus*. 45. Apical margin of seventh tergite in male. 46. Right paramere.

FIGS. 47-49. *A. peruensis*. 47. Right half of pygofer. 48. Right paramere. 49. Apical margin of seventh tergite in male.

FIGS. 50-52. *A. tessellatus*. 50. Apical margin of seventh tergite in male. 51. Right half of pygofer. 52. Right paramere.

bucculae. Thoracic pleura densely punctured, forming castaneous reticulum between numerous flavescent points; metapleuron without calloused spot in posterior lateral corner. Rostrum fulvous, apex fuscous, attaining apical margin of second abdominal segment. Sternal areas and coxae sordid flavescent. Femora irrorate, upper surface of tibiae fuscous, with a few obscure, centrally placed yellowish spots, having lateral long hairs, tarsi dark fulvous. Abdomen flavescent centrally, essentially impunctate, lateral punctures becoming finer and more vague toward margins, area there pale castaneous, matte, basal two segments with transverse, elliptical, impunctate, fulvous patch each side of shallow median furrow; central portion of extreme margin of each segment narrowly yellow.

Pygofer oval, subdepressed; central portion of dorsal border shallowly emarginate, sinus evenly rounded, extending less than one-fifth of median length of capsule; lateral apical lobes parallel to each other, stubby, barely one-third longer than wide, outer surfaces rather flat, apices obtuse; ventral apical margin weakly produced, truncate; submarginal impression lenticular, shallow; proctiger, in dorsal aspect, short cylindrical, barely longer than wide, crest bilaterally tumid, pilose, without tubercles, dorsal membrane triangular at base, narrowed apically, posterior (deflexed) face feebly convex; head of each paramere (apical aspect, fig. 46) mildly concave, irregular quadrilateral, inner and outer margins notched at middle, producing sublobate appearance.

Length to tip of membranes, 14.0 mm.; width across humeri, 8.0 mm.

TYPE: Holotype, male; "Ecuador Occidental," no date; F. Campos, collector; deposited in the United States National Museum.

REMARKS: The relatively large size, glossy appearance, fine, shallow punctation, presence of a fringe of long hairs on the apical margin of the seventh abdominal tergite in the male, and subquadrangular form of the head of the paramere suggest relationship with *A. panamensis* (Ruckes). The more depressed body, absence of flavescent humeri and costal bases of the hemelytra, lack of long hairs on the basal antennal segments, less emarginate terminal abdominal tergite, a

differently shaped retrorse median process on the margin, less conspicuously annulated antennae, and differently lobate head of the paramere readily separate the two.

THE *incurvaria* GROUP

This group of species, in contrast to the foregoing *parallela* group, is distinguished by the following combination of characteristics:

1. Universal presence of a flavescent callus in posterior lateral corner of each metapleuron just behind evaporatorium (fig. 3).

2. Antennal segments II and III with semi-erect or subappressed setae in every case shorter than diameters of segments; segment II subequal to or longer than I and not less than one-third of length of III; segment V ivory or pale flavescent, in a number of cases infuscated apically.

3. Setae on tibiae, just below dorsal sulcus, not longer than diameter of tibiae at points from which they originate; usually shorter.

4. Apical margin of terminal abdominal tergite in male lacking fringe (or tufts) of hairs but having conspicuous, transverse, wrinkled membrane (fig. 2). Median retrorse process varying considerably in form but not ligulate, declivous, and having reflexed, or partially reflexed, transverse, rugulose, apical portion.

5. Lateral lobes of pygofer curved inward so that apices appear to be closer together than their bases are; in lateral aspect lobes usually more than twice as long as wide, i.e., not stubby and subcuneiform, resembling a sunflower seed; their extreme apices may be vertically truncate and wedge-shaped, or rounded, or conically acute, or cuspidate; their dorsal surfaces somewhat flat, and usually having shallow impression, or dent, or oblique sulcus.

6. Proctiger in male in every case having a pair of tubercles on crest, which is usually not strongly pilose, and its posterior, deflexed, in some cases declivous, face usually trapezoidal in outline, with thickened lateral margins, in some cases with low, median, short ridge or carina [*A. amplus* (Walker) excepted].

7. Emargination of central portion of dorsal portion of pygofer deep, sinus extending at least one-third, in some cases three-fourths or more, of median length of capsule; its margin

thickened to resemble horseshoe-shaped or wishbone-shaped figure.

8. Size moderate, length ranging from 10.5 to 12.0 mm.

9. Species mildly convex, some subdepressed, with fine, dense, shallow, and rather evenly distributed punctures, their dorsal surfaces usually quite smooth and, at least, semiglossy.

The following key is an attempt to segregate these species by the use of as many structural characters as possible other than those found in the male genitalia. The species do not necessarily follow one another in strict phyletic sequence. Since the group as a whole is primarily separated from the preceding (*parallela* group) almost entirely on the differences found in the structure of the male genital segment and the terminal margin of the terminal abdominal tergite, it is patently impossible to avoid using sexual characters in this diagnosis. Moreover, in a number of species only male individuals are known. From all evidence at hand, it is impossible to separate females of the different species unless they have been captured concurrently with males.

KEY TO THE *incurvaria* GROUP OF *Antiteuchus*

1. Antennal segment II not more than one-third of length of segment III; segment V totally sordid ivory; tergum piceous; abdominal venter fulvous, infuscated laterally; apex of terminal tergal process in male deeply split into two lobes (fig. 49)
 *peruensis*, new species
 Antennal segment II distinctly more than one-third of length of segment III; segment V infuscated apically; tergum and abdominal venter varied; apex of terminal tergal process in male varied but not split into two lobes, in some species with small median notch 2
- 2(1). Antennal segment II not less than half of length of segment III, basal two segments and most of segment III testaceous, with fine ferruginous dots; venter testaceous, not infuscated laterally
 *amplus* (Walker), 1867
 Antennal segment II more than one-third but less than one-half of length of segment III 3
- 3(2). Abdominal venter pale, flavescent or testaceous, not darker or infuscated laterally; basal area of antennal segment IV sordid ivory 4
 Central portion of abdominal venter fulvous or reddish fulvous, darkening toward lateral margins, in some cases broadly infuscated there 6
- 4(3). Dorsal color pattern finely, evenly marmorate, punctures coalescent, arranged in compact, transverse, wavy lines; connexivum not, or very vaguely, alternated; antennal segments I, II, and III testaceous, with fine ferruginous or fuscous dots; corium without pale laevigate line parallel to main vein, or very obscure one; piceous dots on femora small, tending to coalesce
 *marmoratus* (Erichson), 1848
 Dorsal color design blotched; connexivum conspicuously alternated; antennal segments II and III predominantly fuscous or piceous; corium with conspicuous, flavescent, laevigate line parallel to main vein; piceous dots on femora coarse, not tending to coalesce . . . 5
- 5(4). Apical margin of seventh abdominal tergite in male deeply sinuate each side of narrow, protruding, median process, sinuses filled by membrane (fig. 50); tubercles on crest of proctiger directed posteriorly; depth of sinus on dorsal border of genital capsule not more than half of median length of capsule (fig. 51)
 *tesselatus* (Westwood), 1837
 Apical margin of seventh abdominal tergite in male feebly convex centrally, median process not protruding, its apex wide and subtruncate, its apical margin narrowly deflexed (fig. 53); tubercles on crest of proctiger directed vertically or nearly so; depth of sinus on dorsal border of genital capsule seven-eighths of median length of capsule (figs. 10, 54)
 *nebulosus*, new species
- 6(3). Antennal segment IV entirely piceous . 7
 Antennal segment IV piceous, with basal flavescent annulus 9
- 7(6). Median retrorse tergal process in male long, tapered apically, at least three times as long as wide, weakly declivous, apex narrowly rounded, compressed or pinched together on ventral surface to form short longitudinal groove there (fig. 60); tibiae flavescent, spotted on dorsal (sulcate) surface with fuscous dots
 *punctissimus*, new species
 Median retrorse tergal process in male shorter, not more than twice as long as wide, not tapered, lateral margins sub-

- parallel, apex not compressed; tibiae fulvous or darker, dorsal surfaces infuscated 8
- 8(7). Median retrorse tergal process in male (fig. 63) digitiform, not at all declivous, twice as long as wide, apex evenly rounded, very narrowly deflexed; margin of tergite distinctly impressed each side of base of median process *confinium*, new species
- Median retrorse tergal process in male (fig. 57) stubby, subquadrate, dorsal surface of basal portion tectiform, apical portion weakly ampliate, dorsal surface triangular, declivous, extreme apex truncate; terminal tergite not impressed each side of base of median process *varians*, new species
- 9(6). Tibiae (dorsal aspect) with two broad fuscous, three narrow flavescent, annuli, middle pale annulus in some cases with two or three fuscous dots; median retrorse tergal process in male oblong, porrect, not at all declivous, half again as long as wide, apex subtruncately rounded (fig. 66); lateral apical lobes of pygofer nearly terete, apices abruptly incurved, conically acute (fig. 67) *guianensis*, new species
- Tibiae (dorsal aspect) either infuscated or extensively blotched with fuscous, without well-defined annuli; median retrorse tergal process in male and lateral apical lobes of pygofer not as above . 10
- 10(9). Median retrorse tergal process in male very distinctly declivous, almost deflexed, its apex abruptly ampliate, obcordate with small median notch (fig. 69); lateral apical lobes of pygofer very stout, almost triquetral, apices abruptly bent inward, each terminating in pincer-like pair of large, horizontal, acute cusps (fig. 70); tarsi pale fulvous or rufescent *cuspidatus*, new species
- Median retrorse tergal process in male not at all declivous, its apex not obcordate; lateral apical lobes of pygofer apically acute but not cuspidate; tarsi fuscous or infuscated 11
- 11(10). Median retrorse tergal process in male short, wider than long, apex semicircularly rounded, hardly exceeding transverse membrane (fig. 72); lateral apical lobes of pygofer lunate in cross section, apices gradually curved inward, conically acute (fig. 73); low transverse ridge on crest of proctiger between tubercles *bartiletti*, new species

Median retrorse tergal process in male longer than wide, subrectangular, dorsal surface slightly depressed, subtectiform, apex feebly ampliate, apical margin truncate (fig. 75); lateral apical lobes of pygofer stout, subtriangular in cross section, apices abruptly curved inward, terminating in minute, very acute denticle; crest of proctiger without transverse ridge between tubercles *mimeticus*, new species

Antiteuchus peruensis, new species

Figures 3, 47-49

DIAGNOSIS: Color dark tan, antennal segment V totally ivory, corium with large, elliptical, castaneous discal spot, apex of median retrorse tergal process in male bilobed.

DESCRIPTION: Ovate, mildly convex, 11.5 mm. in length, dorsal surface smooth, semiglossy. Testaceous, covered with exceedingly dense, fine, uniform, evenly distributed, ferruginous punctures, over-all color dark tan; punctures closer together than their own diameters; corium with elliptical castaneous discal spot, otherwise no distinctive design.

Head subequal to greatest width just before eyes, anteocular sinuses shallow, obtuse, margins gradually converging, apex evenly rounded. Antennae exceeding middle of scutellum, distinctly setose, segment I sordid testaceous, spotted with black dots, segments II, III, IV entirely piceous, segment V totally ivory; segmental ratios: 20/20/70/80/80, i.e., segment II equal to I, slightly less than one-third of length of III.

Pronotum two and one-half times as wide as long, anterior margin shallowly emarginate, intramarginal groove shallow, disc uniformly colored and punctured, without transverse furrow behind cicatrices. Scutellum two-fifths longer than wide at base, postfrenal margins parallel, apex rounded, vaguely angular, with minute, distinct, median ivory spot on margin. Corium with large, elliptical, fuscous, discal cloud or spot; main vein bordered externally by erose, laevigate, flavescent line; membranes barely exceeding abdominal apex, pale amber darkening to rich brown basally; external apical angle roundly acute.

Apical margin of terminal abdominal tergite in male (fig. 49) deeply sinuate each side of median process, then impressed at lat-

eral ends, margin having prominent transverse membrane but lacking fringe or tufts of hairs; median retrorse process oblong, about twice as long as wide, apical lobe strongly declivous, almost deflexed, split medially into two subpyriform lobules.

Venter pale fulvous, thoracic sterna and coxae flavescent; punctures ferruginous to fuscous, dense, becoming finer and denser laterally, especially on abdomen. Each metapleuron with prominent, calloused, flavescent spot in posterior lateral corner (fig. 3). Rostrum fulvous, attaining third abdominal segment, median furrow shallow but well defined, reaching middle of abdominal disc. Legs testaceous, densely irrorate with ferruginous spots, dorsal surface of tibiae with similar spots, tarsi essentially concolorous.

Pygofer (fig. 47) broadly oval, barely depressed; central portion of dorsal border deeply emarginate, the margins thickened to form horseshoe-shaped figure, closed end of sinus evenly rounded, extending more than one-third of median length of capsule; lateral apical lobes very stout, arcuate, thick, inner surfaces flat, outer faces strongly convex, about three times as long as wide, vertical margin of apex very obtusely rounded; ventral apical margin truncate centrally, oblique laterally; submarginal impression broadly oval, deep; proctiger stubby, subcylindrical, crest with pair of flattish tubercles directed somewhat posteriorly, long hairs not evident, dorsal membrane triangular, tapering to crest, posterior (deflexed) face trapezoidal, slightly convex, lateral margins obtusely rounded but not thickened, disc with a vague median carina below tubercles; head of each paramere (fig. 48) small, trilobate, two inner lobes ligulate or spatulate, longer, thinner than subquadrangular outer lobe.

Length to tip of membranes, 11.5 mm.; width across humeri, 6.0 mm.

TYPES: Holotype, male; Tingo Maria, Huanuco, Peru; November 23, 1946; J. C. Pallister, collector; deposited in the American Museum of Natural History. Paratype, male; same data as for the holotype.

REMARKS: The presence of an elliptical fuscous spot on each corium presents a pattern similar to that found in *A. amplus* (Walker). In the latter, however, the upper surface is more mottled, and the under sur-

face is paler and less conspicuously punctured. Moreover the construction of the retrorse tergal process in the male, the pygofer, and the paramere is very different in the two species. In spite of these and other differences, I would place *peruensis* close to *amplus*.

***Antiteuchus amplus* (Walker),
new combination**

Figures 42-44

Discocephala ampla WALKER, 1867 (1867-1868, pt. 1), p. 187.

Mecistorhinus amplus: KIRKALDY, 1909, p. 218 (phyletic position uncertain, according to Kirkaldy).

DIAGNOSIS: Testaceous, fuscous punctures unevenly distributed, antennae sordid flavescent, only apical portions of segments III, IV, and V piceous; above sparsely clouded with brown, corium with large discal spot.

DESCRIPTION: Ovate, glossy, sordid flavescent or testaceous, punctures fuscous to ferruginous, unevenly distributed, dorsal surface somewhat sparsely clouded; beneath pale testaceous, impunctate centrally, punctures ferruginous to fuscous, becoming denser laterally.

Head standard for the genus, antecular sinuses quite shallow, obtuse, apex evenly rounded. Antennae testaceous, segments I, II, and III stippled with fuscous to ferruginous dots, apical portions of segments III, IV, and V piceous; segmental ratios: 45/50/100/125/120, i.e., segment II longer than I, about half of length of III, segment IV longest.

Pronotum standard for genus, anterior margin very shallowly excavated, intramarginal groove thin but distinct, disc very vaguely furrowed behind cicatrices, punctures more irregularly distributed than elsewhere, some concentrated in patches across humeral diameter, producing a vague clouded effect. Scutellum less than half again as long as wide at base, punctures densest laterally, postfrenal margins parallel, apex rounded, very vaguely obtusely angular. Corium with discal spot and feeble clouding, punctures unevenly distributed, main vein bordered externally by erose, flavescent, laevigate line, external apical angle acutely rounded; membranes slightly exceeding apex of abdomen, very pale, becoming fulvous basally, veins

concolorous throughout. Connexivum well exposed, testaceous, ferrugino-punctate, sutures bordered with fuscous.

Apical margin of terminal abdominal tergite in male (fig. 44) distinctly bisinuate each side of median retrorse process, strongly impressed at each side of base of process, with prominent transverse membrane but without hairs; median retrorse process stoutly triangular, about twice as long as wide at base, dorsal surface flattened, apex abruptly narrowed, declivous, acutely rounded, very feebly reflexed.

Venter pale testaceous, thoracic punctures fuscous, lateral abdominal punctures fine, dense, area there not infuscated. Metapleuron with prominent, calloused, flavescent spot in posterior lateral corner. Rostrum flavescent to fulvous, apex fuscous, attaining third visible abdominal sternite. Median furrow shallow but distinct. Legs testaceous, with widely spaced fuscous or ferruginous spots on apical half of femora and dorsal surface of tibiae, tarsi uniformly testaceous.

Basal plates of female genitalia subtrapezoidal, little wider than long, lateral margins feebly convex-arcuate, apical margins straight.

Pygofer (fig. 42) broadly oval, feebly depressed; central portion of dorsal border very deeply emarginate, sinus extending at least three-fourths of median length of capsule, margins thickened, forming furculoid or wish-bone-shaped figure; lateral apical lobes long, thin, about four times as long as wide, distinctly arcuate, curved inward apically, slightly turned upward, apices narrowly rounded; ventral apical margin somewhat produced, truncate centrally, having small, flat, triangular lobule at each side; proctiger elongate, subconical, crest with pair of small, flat, subappressed tubercles, not at all pilose, dorsal membrane fusiform in outline, apical portion beyond crest gently declivous rather than deflexed, narrowing apically; head of each paramere (fig. 43) large, basal arm with twisted cross piece just before head, latter roughly spoon-shaped, posterior surface deeply concave, anterior (ental) face convex, conspicuously ribbed vertically, dorsal margin with minute black, spinous denticles.

Average length to tip of membranes, 12.0 mm.; width across humeri, 7.0 mm.

TYPE: Female; deposited in the British Museum (Natural History). Type locality: Villa Nova, Amazonas, Brazil.

DISTRIBUTION: *Brazil*: Amazonas, Villa Nova. *Peru*: Rio Santiago; Rio Tapiche; Rio Ucayali; Rio Caiary-Uaupes; Satipo; Quiros.

REMARKS: Similar in general appearance to *A. tessellatus* (Westwood) but with different ratios of antennal segments, and in which segments II and III are entirely black; in *tessellatus* segment II is distinctly less than half of the length of segment III. The form of the median retrorse process on the terminal tergal segment in the male is quite different in the two species and the pygofer and parameres are dissimilar in the two.

Antiteuchus marmoratus (Erichson)

Cataulax marmoratus ERICHSON, 1848, p. 609.

Dinocoris (*Mecistorhinus*) *marmoratus*: STÅL, 1872, p. 8. LETHIERRY AND SEVERIN, 1893, p. 86.

Mecistorhinus marmoratus: KIRKALDY, 1909, p. 217.

Antiteuchus marmoratus: RUCKES, 1961, p. 152. New combination.

DIAGNOSIS: Grayish yellow, punctures fuscous, arranged in transverse wavy lines on pronotum and scutellum, connexivum vaguely alternated.

DESCRIPTION: Ovate, subdepressed, smooth, semiglossy; sordid flavescent, punctures castaneous to fuscous, fine, dense, somewhat confluent, arranged in transverse wavy lines across pronotum and scutellum; beneath ochraceous, punctures castaneous to ferruginous, sterna and central portion of abdomen testaceous, impunctate, abdominal punctures ferruginous, becoming finer and denser laterally.

Head standard for genus, anteocular sinuses shallow, obtuse, margins before them gradually converging to evenly rounded apex; punctures fuscous, irregular, dense, in some cases two laevigate flavescent round spots adjacent to vertex on disc. Antennal segments I and II and basal portion of III sordid flavescent stippled with fuscous spots, III, IV, and V piceous, bases of IV and V sordid ivory; segmental ratios: 40/40/100/120/120, i.e., segment II equal to I and more than one-third of length of III.

Pronotum two and one-third times as wide as long, anterior margin very shallowly exca-

vated, intramarginal groove thin; punctures fuscous, tending to coalesce into transverse wavy lines; surface evenly convex. Scutellum two-fifths longer than wide at base, post-frenal margins parallel, apex evenly rounded, attaining base of terminal tergite. Hemelytral membranes slightly exceeding abdomen; punctures of corium dense, arranged in fine irregular reticulum, a vague, small, darker, discal spot visible; external apical angle of corium acute; membranes pale smoky yellow, darkening toward base, veins slightly darker. Connexivum fulvous, densely punctured, sutures vaguely infuscated.

Rostrum sordid flavescent, apex fuscous, attaining middle of second visible segment, abdominal furrow very shallow, wide, vague. Metapleuron with conspicuous flavescent calloused spot in posterior lateral corner. Sterna and coxae sordid ivory. Legs testaceous, femora densely irrorate apically, tibiae with incomplete basal and apical fuscous annuli and small fuscous dots on dorsal surface, tarsi tending to be rubescent.

Basal plates of female genitalia equilaterally triangular, apical margins feebly convex-arcuate, taken together forming a mildly curved line across abdominal apex.

TYPE: Female; deposited in the Zoological Museum, Humboldt University, Berlin. Type locality: British Guiana.

DISTRIBUTION: *British Guiana*: Tumatumari; Potaro River. *French Guiana*: Oyapok. *Peru*: Ucayali River; Tapiche River; Santiago River. *Brazil*: Amazonas; Para, Belem.

REMARKS: Unfortunately I have never seen a male specimen of this species. I have placed the species in the *incurvaria* group, because all female examples that I have examined show the presence of a large yellow callus in the posterior lateral corner of the metapleuron and have the bases of antennal segments IV and V broadly flavescent or sordid ivory. As with other members of the *incurvaria* group, specimens of *marmoratus* show the absence of long hairs on the antennae and tibiae, a character that segregates them from most of the species in the *parallela* group.

Antiteuchus tessellatus (Westwood)

Figures 50-52

Dinidor tessellatus WESTWOOD, 1837, p. 25.

Macrothyreus annulicornis FIEBER, 1851, p. 458. New synonymy.

Dinocoris tessellatus: STÅL, 1872, p. 9. LETHBRIDGE AND SEVERIN, 1893, p. 86. DISTANT, 1900, p. 808.

Mecistorhinus tessellatus: KIRKALDY, 1909, p. 218 (subgeneric affiliation uncertain, according to Kirkaldy).

Antiteuchus tessellatus: RUCKES, 1961, p. 152. New combination.

DIAGNOSIS: Antennal segments II and III piceous; tylus, vertex, and pronotum with percurrent (in some cases irregular), flavescent, thin line.

DESCRIPTION: Ovate, mildly convex, semi-glossy; yellowish, punctures fuscous, somewhat irregularly distributed; head, pronotum, and basal portion of scutellum with percurrent, median, irregular, thin, flavescent line; beneath ochraceous, punctures castaneous to ferruginous.

Head standard for genus, anteocular sinuses obtuse, shallow, margins before them parallel, apex evenly rounded; punctures dense, confluent, arranged in irregular wavy lines, tylus and vertex bordered with row of congested fuscous punctures. Antennal segment I sordid yellow, with fuscous dots, remaining segments piceous, bases of IV and V broadly annulated with ivory; segmental ratios: 40/40/120/140/140, i.e., segment II equal to I, one-third of length of III.

Pronotum two and one-half times as wide as long, anterior margin shallowly excavated, intramarginal groove shallow, disc with vague, transverse, very shallow furrow behind cicatrices; punctures irregularly disposed, their fuscous margins confluent to form transverse and longitudinal wavy lines. Scutellum unevenly punctured, obscure fuscous cloud on disc near base; apex evenly rounded. Hemelytra exceeding abdominal apex, corium quite unevenly punctured, leaving numerous small, flavescent laevigate areas showing, main vein bordered ectally by prominent, thin, laevigate, flavescent line; external apical angle roundly acute; membranes smoky yellowish, darkening basally, veins almost concolorous.

Thoracic punctures castaneous, dense, those on propleura arranged in loose reticulum. Rostrum testaceous, reaching middle of

third visible abdominal sternite; median furrow broad, shallow, extending through fifth segment. Metapleuron with conspicuous flavescent callus in posterior lateral corner. Abdomen impunctate centrally, becoming very densely, finely punctured laterally, angles at incisures narrowly black.

Apical margin of terminal abdominal tergite in male (fig. 50) very deeply excavated each side of median retrorse process, lacking fringe of hairs, prominent membrane filling sinuses produced by excavation, median retrorse process short, not much longer than wide, not at all declivous, abruptly dilated at apex, margin there truncate and narrowly deflexed.

Pygofer (fig. 51) broadly ovate, about half again as long as wide; central portion of dorsal border deeply emarginate, sinus extending about half of median length of capsule, margins thickened into horseshoe-shaped figure; lateral apical lobes arcuate, slightly incurved, apices subobtusely rounded; ventral apical margin shallowly trisinate; submarginal impression transversely lenticular, shallow; proctiger stoutly ovate, crest with pair of prominent, posteriorly directed, subconical tubercles, but without pile, dorsal membrane pyriform, narrowed at crest, posterior (deflexed) face trapezoidal, disc flattish; head of paramere prominent, subfoliaceous, irregularly quadrangular, with three to four acute spinous cusps of outer (ectal) surface (fig. 52).

Average length to tip of membranes, 13.0 mm.; width across humeri, 7.0 mm.

TYPE: Male; deposited in the University Museum, Hope Department of Entomology, Oxford University. Type locality: Brazil.

DISTRIBUTION: *Brazil*: Rio de Janeiro; Minas Gerais. *British Guiana*: Georgetown.

REMARKS: Most of the above description was composed from the type specimen, Westwood's original being very sketchy and incomplete. There is considerable resemblance between this species and *A. amplus* (Walker). In *tesselatus* the antennal segments are piceous (as noted), the coria lack the prominent discal patch, and the heads of the parameres are very different. In addition there is dissimilarity in the form of the median retrorse tergal process in the males of the two species. The two species, however, are closely related.

Antiteuchus nebulosus, new species

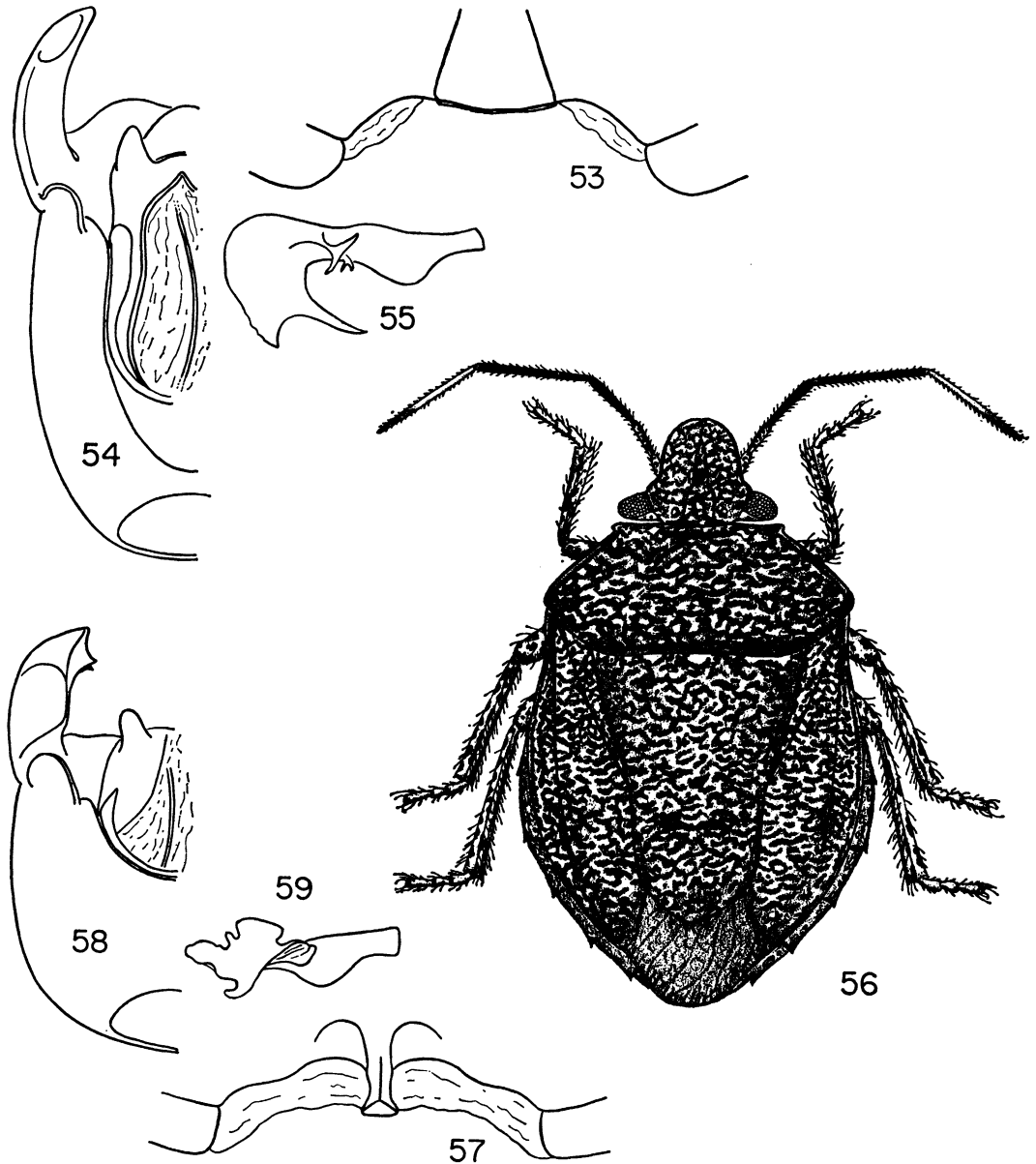
Figures 10, 53-55

DIAGNOSIS: Elongate oval, nearly twice as long as wide, dorsum with irregular fuscous clouding on hemelytra, scutellum, and posterior portion of pronotum, apex of scutellum somewhat narrowly rounded, apical margin of seventh abdominal tergite in male without protruding, median, retrorse process.

DESCRIPTION: Elongate oval, mildly convex, semiglossy; testaceous, irregularly fuscopunctate, with percurrent, median, flavescent line through head, pronotum, and basal third of scutellum, several smooth flavescent areas evident on coria between clouded clusters of fuscous punctures.

Head as long as greatest width just before eyes, anteocular sinuses shallow, obtuse, margins gradually convergent to less than semicircularly rounded apex; punctures fuscous, unevenly distributed, considerable flavescent area evident, tylus and vertex bordered with rows of congested darker punctures. Antennae finely setulose, segments I and II sordid testaceous, fuscopunctate, remaining segments piceous, segments IV and V with broad, basal, pale annuli; segmental ratios: 40/40/110/140/140, i.e., segment II equal to I, slightly more than one-third of length of III.

Pronotum about two and one-half times as wide as long, anterior margin barely excavated, subtruncate, intramarginal groove shallow, vague, very shallow furrow extending across disc behind cicatrices; punctures fuscous, many aggregated into short, twisted lines; in some cases a small flavescent spot on disc at lateral ends of cicatrices; four to six fuscous clouds extending across crest between humeri. Scutellum about one-third longer than wide at base, postfrenal margins subparallel, apex somewhat narrowly rounded but not angular; punctures fuscous, irregularly distributed, disc with uneven clouding. Hemelytra quite irregularly punctured, dense cluster of fuscous punctures on basal portion of corium and embolium fuscous discal spot, main vein bordered ectally by row of single fuscous punctures followed by smooth, flavescent line; external apical angle of corium roundly acute; membranes slightly exceeding abdominal apex, pale smoky yellow,



FIGS. 53–55. *A. nebulosus*. 53. Apical margin of seventh tergite in male. 54. Right half of pygofer. 55. Right paramere.

FIGS. 56–59. *A. varians*. 56. Facies. 57. Apical margin of seventh tergite in male. 58. Right half of pygofer. 59. Right paramere.

darkening basally, veins concolorous. Connexivum well exposed, flavescent, densely ferrugino-punctate, incisures with conspicuous black spot on each side. Tergum fulvous, almost impunctate.

Apical margin of seventh abdominal tergite in male (fig. 53) without protruding, retrorse,

median process, central area slightly elevated, feebly convex-arcuate, subtriangular in outline, dorsal surface rather flat; bordered laterally by shallow impression on each side; transverse marginal membrane restricted to small lateral areas adjacent to last connexival plates, fringe or tufts of hairs lacking.

Venter ochraceous, sterna and coxae paler; thoracic punctures fuscous, dense, abdominal ones ferruginous, becoming finer and very dense laterally. Metapleuron with flavescent callus in posterior lateral corner. Rostrum sordid testaceous, extreme apex fuscous, reaching apical margin of third visible abdominal segment. Evaporatorium reddish fulvous. Median abdominal furrow shallow, broad. Legs sordid testaceous, femora and tibiae with numerous fuscous spots, tarsi uniformly colored.

Basal plates of female genitalia subquadrangular, apical margins truncate, slightly convergent medially.

Pygofer (figs. 10, 54) elongate oval, almost twice as long as wide, evenly convex; central portion of dorsal border very deeply emarginate, closed end of sinus extending almost seven-eighths of median length of capsule, its margins thickened, forming wishbone-shaped figure; lateral apical lobes subprismatic, about three times as long as wide, triangular in cross section, upper surfaces longitudinally sulcate or grooved, apices distinctly incurved, roundly acute; ventral apical margin shallowly sinuate centrally, lateral ends slightly produced, obtusely rounded; submarginal impression broadly oval, rather deep; proctiger (free portion) subglobular, crest with pair of prominent, vertical, incurved, conical tubercles, not pilose, dorsal membrane broadly pyriform, apical end not reaching crest, posterior (deflexed) face obscurely trapezoidal, its lateral margins obtusely convex; head of paramere (fig. 55) large, foliaceous, concave surface facing ectally, dorsal margin obtusely rounded, ventral margin with three very acute, small, spinous lobes or teeth.

Average length, 13.25 mm.; width across humeri, 7.25 mm.

TYPES: Holotype, male; Nova Teutonia, Santa Catarina, Brazil; July, 1948; A. Maller, collector; deposited in the American Museum of Natural History. Allotype, female; Ouro Preto, Paraná, Brazil; January 28, 1954; deposited in the American Museum of Natural History. Paratypes: three females; Rio de Janeiro, Brazil; no date; deposited in the American Museum of Natural History.

DISTRIBUTION: *Brazil:* Santa Catarina, Nova Teutonia; Paraná, Ouro Preto; Rio de Janeiro, Rio de Janeiro.

REMARKS: Superficially the color of this species is like that of both *A. amplus* (Walker) and *A. tessellatus* (Westwood). When the three are examined side by side the subtle differences become apparent. The absence of a protruding median retrorse process on the male terminal abdominal tergite, the very long sinus on the dorsal wall of the genital capsule of the male, the explanate, large head of the paramere, with its spinous denticles, and the subquadrangular basal plates of the female genitalia set this species off from its close relatives. *Nebulosus* is probably closer to *amplus* than to *tessellatus*.

Antiteuchus varians, new species

Figures 56-59

DIAGNOSIS: Antennal segment II approaching half of length of III, segment IV totally black; corium without minute discal pale spot; membranes exceeding apex of abdomen; color sordid yellow suffused with castaneous; punctures dense, fine, ferruginous to fuscous.

DESCRIPTION: Ovate, mildly convex, glossy to semiglossy; color variable, flavescent, fulvous to fuscous, densely overlain with brown-margined fuscous punctures arranged in vermiculate rows on pronotum and scutellum, leaving small pale stipples evident, overall color dark brown; thoracic pleura sordid yellowish, densely fusco-punctate; sterna and coxae pale; abdomen fulvous, castaneous or fuscous, commonly darkening laterally.

Head standard for genus. Antecular sinuses shallow, obtuse, margins subparallel, apex evenly, semicircularly rounded; punctures dense, confused, disc finely rugulose. Antennae black, segment V ivory, with infuscated apical portion, segment I partially flavescent; segmental ratios: 30/30/70/90/90, i.e., segment II equal to I, more than one-third of length of III.

Pronotum two and one-half times as wide as long, anterior margin very shallowly excavated, intramarginal groove shallow; shallow transverse furrow across disc behind cicatrices; punctures arranged in vermiculate clusters. Scutellum one-fourth longer than wide at base, basal angles not impressed, postfrenal margins parallel, then gradually converging to narrowing, subangular apex, attaining the sixth and seventh tergites, respectively, in female and male; punctures

dense, arranged in vermiculate clusters. Hemelytra very densely punctured, medium to dark brown, with numerous minute flavescent stipples showing, no laevigate discal spot evident; external apical angle of corium roundly acute, main vein not bordered externally by laevigate flavescent line or dashes; membranes exceeding abdominal apex, pale amber, darkening basally, veins almost concolorous. Connexivum flavescent, densely ferrugino-punctate, in paler examples incisures showing some infuscation.

Apical margin of terminal abdominal tergite in male (fig. 57) moderately excavated each side of median retrorse process, weakly impressed there, membrane conspicuous, fringe or tufts of hairs absent; median retrorse process short, robust, slightly longer than wide, tectiform in contour, apex slightly dilated, truncate, its extreme margin abruptly narrowly deflexed, not exceeding margin of transverse membrane.

Rostrum fulvous, extreme apex fuscous, reaching third visible abdominal segment. Metapleuron with flavescent callus in posterior lateral corner. Median abdominal furrow broad, shallow, attaining sixth sternite. Legs sordid flavescent, densely irrorate or marmorate with fuscous, tibiae usually uniformly fuscous, in some specimens small pale areas showing, tarsi uniformly colored fulvous.

Basal plates of female genitalia roundly triangular, nearly equilateral, apical margins forming curved line across abdomen.

Pygofer (fig. 58) ovoid, slightly depressed; central portion of dorsal border deeply emarginate, base of sinus extending more than one-third of length of capsule, margins thickened, forming horseshoe-shaped figure; lateral apical lobes stout, about twice as long as wide, dorsal surfaces foveate, axes distinctly incurved, apices vertically wedge-shaped, with minute, acute cusp on upper and lower ends of margin; ventral apical margin weakly convex-arcuate; submarginal impression transversely lenticular, shallow; proctiger short, cylindrical, crest with pair of black, posteriorly directed, rather flat, obtuse tubercles, membrane pyriform, posterior (deflexed) face distinctly trapezoidal, with lateral margins carinate, slightly incurved; head of paramere (fig. 59) small, foliaceous, with four very ir-

regular, twisted, distorted lobes to give appearance of small bit of dried, crumpled leaf.

Average length to tip of membranes, 12.25 mm.; width across humeri, 7.2 mm.

TYPES: Holotype, male; Tumatumari, Potaro River, British Guiana; June 29, 1927. Allotype, female; same data as for holotype. Paratypes (five): Males (four): Manaos, Amazonas, Brazil; no date; Huebner, collector (three); deposited in the Natural History Museum, Stockholm. Tumatumari, Potaro River, British Guiana; June 29, 1927 (one); deposited in the American Museum of Natural History. Female; June 29, 1927 (one); deposited in the American Museum of Natural History.

DISTRIBUTION: *British Guiana*: Tumatumari. *Brazil*: Amazonas.

REMARKS: In my estimation this species represents about the middle of the phyletic series included in the *incurvaria* group. It shows, in the male genitalia, no special elaboration or degeneration of parts. The closest relatives of this species probably are *A. confinium* and *A. punctissimus*, two new species, the descriptions of which follow.

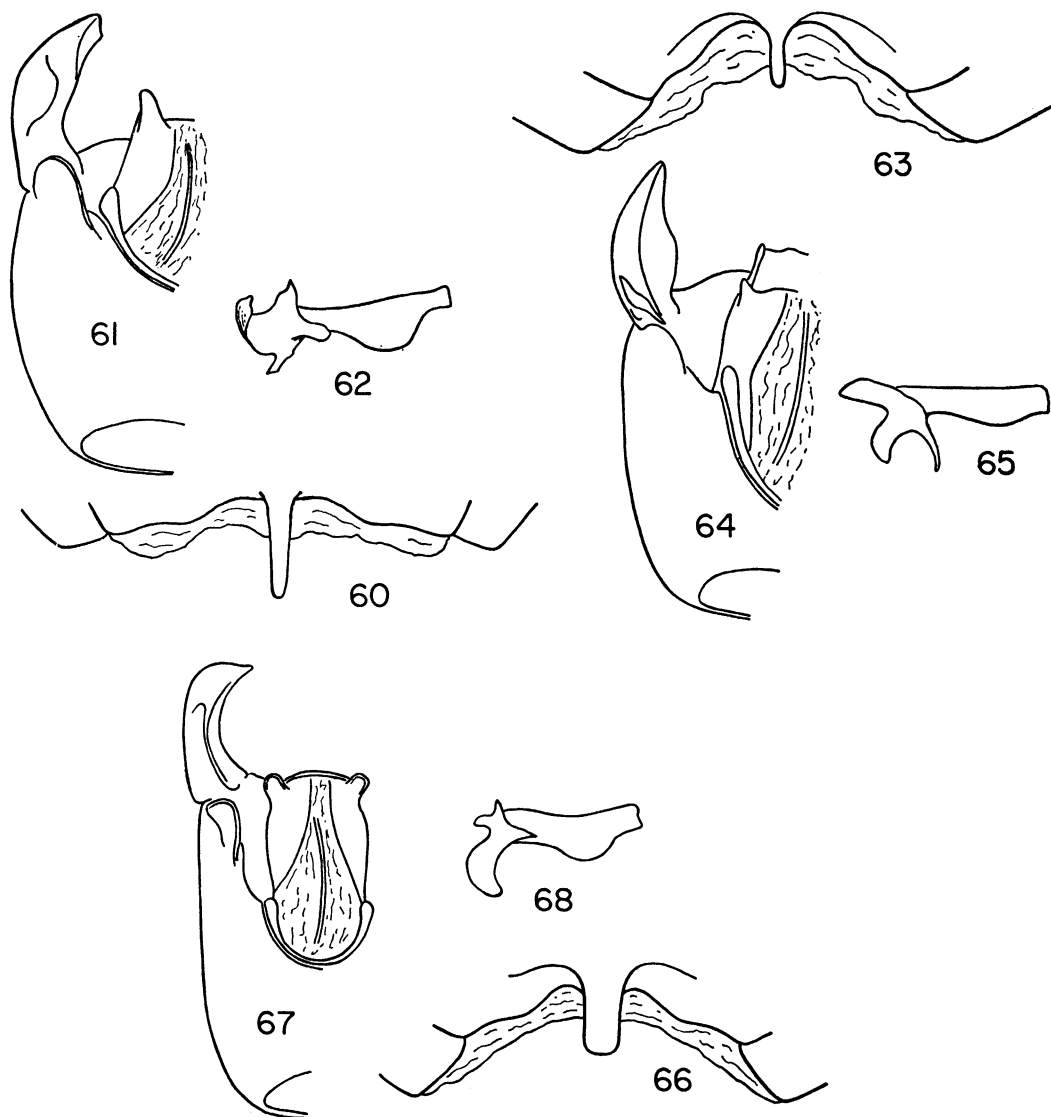
Antiteuchus punctissimus, new species

Figures 60-62

DIAGNOSIS: Very finely, densely punctured, antennal segments I and II and base of III flavescent, fusco-punctate, median retrorse tergal process in male digitiform, about four times as long as wide, apex compressed or pinched.

DESCRIPTION: Ovate, slightly less than medium size, about 10.5 mm. in length; subdepressed, above glossy, pale testaceous, very densely and evenly overlain with fine, dark, ferruginous to castaneous punctures, hardly farther apart than their own diameters, overall color medium brown; beneath semiglossy, fulvous, punctures fuscous, lateral portions of abdomen lightly infuscated.

Head form standard for the genus, anteocular sinuses shallow, obtuse, margins before them subparallel, apex evenly rounded. Antennae partially mutilated, segments I and II and basal half of III sordid testaceous speckled with fuscous dots, apical portion of segment III fuscous, segments IV and V missing; segmental ratios: 30/30/60/—/—, i.e.,



FIGS. 60-62. *A. punctissimus*. 60. Apical margin of seventh tergite in male. 61. Right half of pygofer. 62. Right paramere.

FIGS. 63-65. *A. confinium*. 63. Apical margin of seventh tergite in male. 64. Right half of pygofer. 65. Right paramere.

FIGS. 66-68. *A. guianensis*. 66. Apical margin of seventh tergite in male. 67. Right half of pygofer. 68. Right paramere.

segment II equal to I, one-half of length of III.

Pronotum two and one-third times as wide as long; anterior margin very shallowly excavated, intramarginal groove thin, distinct, no transverse furrow across disc apparent; punctures fine, dense, deep, no farther apart than their own diameters, their castaneous borders

extensively coalescent to form transverse wavy lines; humeri roundly rectilinear. Scutellum one-fourth longer than wide at base, mildly convex, postfrenal margins parallel, then gradually convergent, apex somewhat narrowly rounded, vaguely subangular; punctures similar to those on pronotum, forming a very dense, fine reticulum. Hemelytra densely

punctured; main vein bordered externally by very thin line of short flavescent dashes, external apical angle of corium acutely angled; membrane pale smoky amber, darkening basally, veins concolorous. Connexivum reddish fulvous or darker, densely fusco-punctate.

Apical margin of terminal abdominal tergite in male (fig. 60) shallowly excavated, centrally truncate, weakly impressed each side of median retrorse process, having conspicuous transverse membrane but lacking fringe or tufts of hair; median retrorse process elongate, narrow, tapering digitiform, about four times as long as wide at base, gradually declivous, extreme apex rounded, pinched together or compressed so that ventral surface there is narrowly grooved, and distinctly exceeding transverse membrane.

Thoracic venter sordid testaceous, sterna impunctate, pleura densely, somewhat confusedly fusco-punctate. Metapleuron with small, calloused, flavescent spot in posterior lateral corner. Central portion of abdomen yellowish fulvous, lateral portions reddish fulvous, lightly infuscated there with very fine punctures, becoming denser and more obscure toward the margin. Rostrum fulvous, attaining middle of second visible abdominal sternite. Median furrow shallow, vague. Legs sordid testaceous or yellowish fulvous, femora densely irrorate, with fuscous spots which tend to coalesce apically, tibiae with coalescent fuscous or piceous spots on upper surfaces, tarsi uniformly sordid testaceous.

Pygofer (fig. 61) ovate; central portion of dorsal border deeply emarginate, base of sinus extending at least one-third of median length of capsule, its margins thickened to form normal horseshoe-shaped figure; lateral apical lobes stout, about two and one-half times as long as wide, dorsal surfaces pyriform, weakly indented, apical portions curved inward, apices vertically acute, wedge-shaped, without recognizable acute denticles at upper and lower ends of vertical margin; proctiger ovate from dorsal aspect, crest with pair of prominent, slightly divergent, black, cornua-like tubercles, dorsal membrane unequally rhomboidal, not quite reaching crest, posterior (deflexed) face quadrangular, lateral margins subparallel, thick, raised, disc with small, vertical, carina-like ridge; head of

paramere small, thin, irregularly quadrangular (fig. 62), with four unequal small lobes, the upper one of which is curved downward; ventral apical margin between lateral apical lobes truncate centrally, shallowly concave-arcuate laterally; submarginal impression broadly lenticular, hardly concave.

Length to tip of membranes, 10.5 mm.; width across humeri, 6.0 mm.

TYPES: Holotype, male; Para, Brazil; 1902; Churchill, collector; deposited in the British Museum (Natural History). Paratype, male; Para, Brazil; no date; *ex* collection P. R. Uhler; deposited in the United States National Museum.

DISTRIBUTION: *Brazil*: Para.

REMARKS: This species is similar to *A. varians* Ruckes but has a long, digitiform, retrorse, median process on the terminal tergal segment in the male, lacks cusps or denticles on the apices of the lateral apical lobes of the pygofer, has more prominent, cornua-like tubercles on the crest of the proctiger, and parameres of somewhat different design. Individuals of this species are slightly smaller than those of *variens*.

***Antiteuchus confinium*, new species**

Figures 63-65

• DIAGNOSIS: Over-all color dark brown sparsely stippled with minute flavescent marks, antennal segment IV entirely black, median retrorse tergal process in male short digitiform, twice as long as wide, apex not exceeding transverse marginal membrane; tibiae uniformly fuscous.

DESCRIPTION: Narrowly ovate, mildly convex; above glossy, heavily suffused with dark fulvous or fuscous, numerous minute, irregular, flavescent flecks scattered about, densely overlain with fine, shallow punctures about twice as far apart as their own diameters, over-all color dark brown; beneath dark fulvous to fuscous, with reddish tints; thoracic pleura glossy, variegated; abdomen semiglossy, dark reddish fulvous to castaneous, in some specimens becoming slightly paler laterally. Metapleuron with small flavescent callus in posterior lateral corner.

Head slightly shorter than greatest width just before eyes, anteocular sinuses shallow, obtuse, margins gradually arcuate to evenly rounded, but not broad, apex; punctures

dense, confused, surface very finely rugulose. Antennae long, exceeding middle of scutellum, segments black, segment I fulvescent, basal half of V sordid ivory; segmental ratios: 25/30/70/80/90, i.e., segment II longer than I, approaching half of length of III.

Pronotum about two and one-third times as wide as long, anterior margin barely excavated, intramarginal groove thin, deep; vague transverse shallow furrow across disc behind cicatrices; humeri roundly rectilinear; punctures about two or three times as far apart as their own diameters, i.e., more sparse than elsewhere. Scutellum mildly convex, postfrenal margins subparallel, then abruptly convergent to somewhat subangular, obtuse apex; punctures rather evenly distributed, basal angles feebly impressed. Hemelytra more or less uniformly dark brown, punctures more dense than elsewhere, main vein without accompanying ectal, flavescent, laevigate line or row of short dashes; external apical angle of corium roundly acute; membranes exceeding abdominal apex, clear fulvous brown, darkening slightly toward base, veins essentially concolorous. Connexivum moderately exposed, reddish fulvous, concolorously, densely punctured, margins of incisures vaguely infuscated. Tergum fuscous to piceous, sparingly punctured.

Apical margin of terminal abdominal tergite in male (fig. 63) shallowly excavated, broadly impressed each side of median retrorse process, transverse membrane prominent, triangularly notched at middle just below median process, fringe or tufts of hair absent; median retrorse process black, digitiform, about twice as long as wide, porrect, not at all declivous, apex obtusely rounded, not exceeding apical margin of transverse membrane.

Ventral surface as previously described, lateral portion of abdomen tending to become matte orange-brown and obscurely punctured. Median abdominal furrow vague. Rostrum sordid fulvous, reaching third abdominal sternite. Mesosternum fuscous or darker. Legs dark, femora densely marmorate, upper surfaces of tibiae fuscous, in some cases with small paler area near middle, tarsi uniformly dark fulvous.

Pygofer (fig. 64) broadly ovate; central portion of dorsal border deeply emarginate,

closed end of sinus somewhat angular, reaching at least two-thirds of median length of capsule, margins thickened to form elongated horseshoe-shaped figure; lateral apical lobes stout, wedge-shaped or prismatic, arcuate, slightly more than twice as long as wide at base, upper surfaces subcrenate, widest at base, provided with oblique sulcus there, apices gradually incurved, vertical acute apical margin without cusps or denticles at upper and lower ends; ventral apical margin narrowly truncate centrally, sloping obliquely laterally; submarginal impression broadly lenticular, very shallow; proctiger (dorsal aspect) stoutly cylindrical, crest with pair of slightly incurved, short, blunt tubercles, posterior face declivous, not deflexed, lateral margins slightly thickened, disc with median, carina-like ridge, dorsal membrane elongate, reaching crest; head of paramere (fig. 65) proportionately small, trilobate, posterior face concave, dorsal lobe acute, lower two lobes subquadrate, with truncate margins.

Length to tip of membranes, 11.25 mm.; width across humeri, 7.0 mm.

TYPES: Holotype, male; Peru-Brazil frontier; February 14, 1928; Harvey Bassler, collector; deposited in the American Museum of Natural History. Paratypes, three males; with the same data as the holotype.

DISTRIBUTION: *Peru. Brazil.*

REMARKS: The specific name *confinium* was chosen to signify the distribution along the border of two adjacent countries. The uniformly piceous color of the fourth antennal segment, the superficial similarity in form of the parameres and the median, retrorse, tergal process in the male, are characters that suggest relationship of this species with both *varians* and *punctissimus*, described above. The fuscous mesosternum and dark legs distinguish *confinium* from the other two.

Antiteuchus guianensis, new species

Figures 66-68

DIAGNOSIS: Antennae black, base of segment IV and base and apex of segment V sordid ivory, tibiae testaceous with two broad fuscous or piceous annuli, median retrorse process on male terminal tergite oblong-rectangular, rather flat.

DESCRIPTION: Ovate, mildly convex, glossy above; testaceous, overlain with dense, shal-

low, ferruginous to fuscous punctures, the darker borders of which coalesce to form a vague, fine reticulum on head and pronotum, numerous irregular, minute, flavescent stipules scattered about; beneath fulvous, darkening laterally; thoracic sterna pale. Metapleuron with conspicuous flavescent callus in posterior lateral corner.

Head standard for genus, anteocular sinuses shallow, obtuse, margins parallel, apex semicircularly rounded; punctures irregularly distributed, coalescent to form fine, uneven reticulum. Antennae black, basal segment obscurely fulvescent, base of segment IV and base and apex of segment V sordid ivory; segmental ratios: 25/30/80/90/90, i.e., segment II longer than I, more than one-third but less than one-half of length of III.

Pronotum about two and two-thirds times as wide as long; anterior margin barely excavated, intramarginal groove and transverse furrow across disc vague and shallow; punctures about as far apart as their own diameters, somewhat confluent to form vague, fine reticulum, surface slightly irregular. Scutellum about one-third longer than wide at base, postfrenal margins parallel, then abruptly convergent, apex obtusely, subangularly rounded; punctures arranged in irregular, transverse, wavy lines. Hemelytra more densely punctured than elsewhere, main vein with parallel, external, flavescent, roughish line; external apical angle of corium roundly acute; membranes exceeding abdominal apex, pale amber, darkening basally, veins slightly darker. Connexivum dark fulvous, densely punctured, incisures and sutures infuscated. Tergum rich fulvous brown, very finely, sparsely punctured.

Apical margin of terminal abdominal tergite in male (fig. 66) moderately sinuate, vaguely impressed each side of base of median retrorse process, lacking fringe or tufts of hairs, membrane conspicuous, its apical margin evenly arcuate; median retrorse process flat, oblong, subrectangular, about one-half again as long as wide, porrect, not at all declivous, exceeding apical margin of transverse membrane by about half of its length, apical angles obtusely rounded.

Venter fulvous centrally, becoming slightly darker laterally. Thoracic pleura glossy, densely fusco-punctate, finely speckled with

irregular flavescent points. Rostrum fulvous, reaching third visible abdominal sternite. Legs sordid testaceous, femora with coalescent fuscous spots, tibiae with two broad piceous annuli, subbasal and anteapical; tarsi sordid fulvous. Abdomen semiglossy, laterally matte, tending to become darker; median furrow vague, almost obsolete.

Pygofer (fig. 67) narrowly ovate, about twice as long as wide, uniformly convex; central portion of dorsal border deeply emarginate, closed end of sinus evenly rounded, extending one-half of length of capsule, margins thickened, forming normal horseshoe-shaped figure; lateral apical lobes subcylindrical, as seen from above, about three times as long as wide, subparallel basally, then abruptly turned inward, incurved apices conically acute; ventral apical margin essentially truncate across entire width, or very feebly convex-arcuate; procotiger stout, short, cylindrical, crest with pair of semi-erect, somewhat flat tubercles, dorsal membrane prominent, subrhomboidal, reaching crest, posterior (deflexed) face trapezoidal, lateral margins thickish, not much elevated, disc with vague median ridge; head of paramere (fig. 68) smallish, four-lobed, lower inner lobe largest, three upper lobes quite small, acute, posterior face concave, obliquely sigmoid.

Length to tip of membranes, 11.75 mm.; width across humeri, 6.75 mm.

TYPES: Holotype, male; Cayenne, French Guiana; May, 1898; deposited in the American Museum of Natural History. Allotype, female; same data as for the holotype. Paratypes, two males, one with same data as for the holotype. One, Moraballi Creek, Essiquibo River, British Guiana; November 25, 1929; Oxford University Expedition; deposited in the British Museum (Natural History).

DISTRIBUTION: *French Guiana. British Guiana.*

REMARKS: This species is distinctive by virtue of the annulated tibiae, the basal and apical ivory areas on the fourth and fifth antennal segments, and the flat, rectangular-oblong shape of the median retrorse process on the terminal tergal margin in the male. It is most closely related to *A. bartletti*, new species, the description of which follows.

Antiteuchus bartletti, new species

Figures 72-74

DIAGNOSIS: Venter dark castaneous to fuscous; corium without parallel flavescent line on ectal side; median retrorse process on terminal tergal margin in male reduced to stubby semicircular lobe not exceeding apical margin of transverse membrane; paramere bilobed.

DESCRIPTION: Ovate, subdepressed, glossy; above sordid flavescent, extensively suffused with castaneous and fulvous, leaving scattered, small, yellowish markings visible; overlain with relatively dense, fine punctures; over-all color dark brown; beneath dark castaneous to fuscous, thoracic pleura and sterna sordid flavescent, pleura glossy, coarsely punctured. Metapleuron with large flavescent callus in posterior lateral corner.

Head standard for genus, anteocular sinuses shallow, obtuse, margins before them arcuate, apex semicircularly rounded; disc irregularly rugulose, tylus and vertex darker. Antennae mutilated.

Pronotum two and one-half times as wide as long; anterior margin very shallowly excavated, intramarginal groove and transverse furrow across disc shallow, latter rather vague; punctures fine, shallow, somewhat farther apart than their own diameters, regularly distributed; humeri roundly rectilinear. Scutellum one-fourth longer than wide at base, postfrenal margins parallel, then abruptly converging, apex narrowly, subangularly rounded; punctures more irregularly distributed than on pronotum, some arranged in transverse wavy lines across middle. Hemelytra more densely and evenly punctured than elsewhere; main vein without accompanying ectal flavescent thin line or row of dashes; external apical angle acutely rounded; membranes slightly exceeding abdominal apex, clear amber, darkening toward base, veins concolorous. Connexivum dark castaneous to fuscous, densely punctured, extreme margin of each segment with two or three short, flavescent dashes.

Apical margin of terminal abdominal tergite in male (fig. 72) rather shallowly excavated, impressed on each side of median lobe, transverse membrane conspicuous, lacking fringe or tufts of hairs; median retrorse proc-

ess reduced to stubby, semicircular lobe which does not surpass the apical margin of terminal membrane, its apex narrowly ivory.

Venter extensively infuscated, especially abdomen. Rostrum sordid fulvous, apex darker, attaining third segment. Legs obscurely ochraceous, femora extensively variegated with irregularly fuscous markings, tibiae fuscous, with small flavescent central area, tarsi dark fulvous. Abdomen glossy centrally, matte laterally and there finely, obscurely punctured; median furrow obsolete.

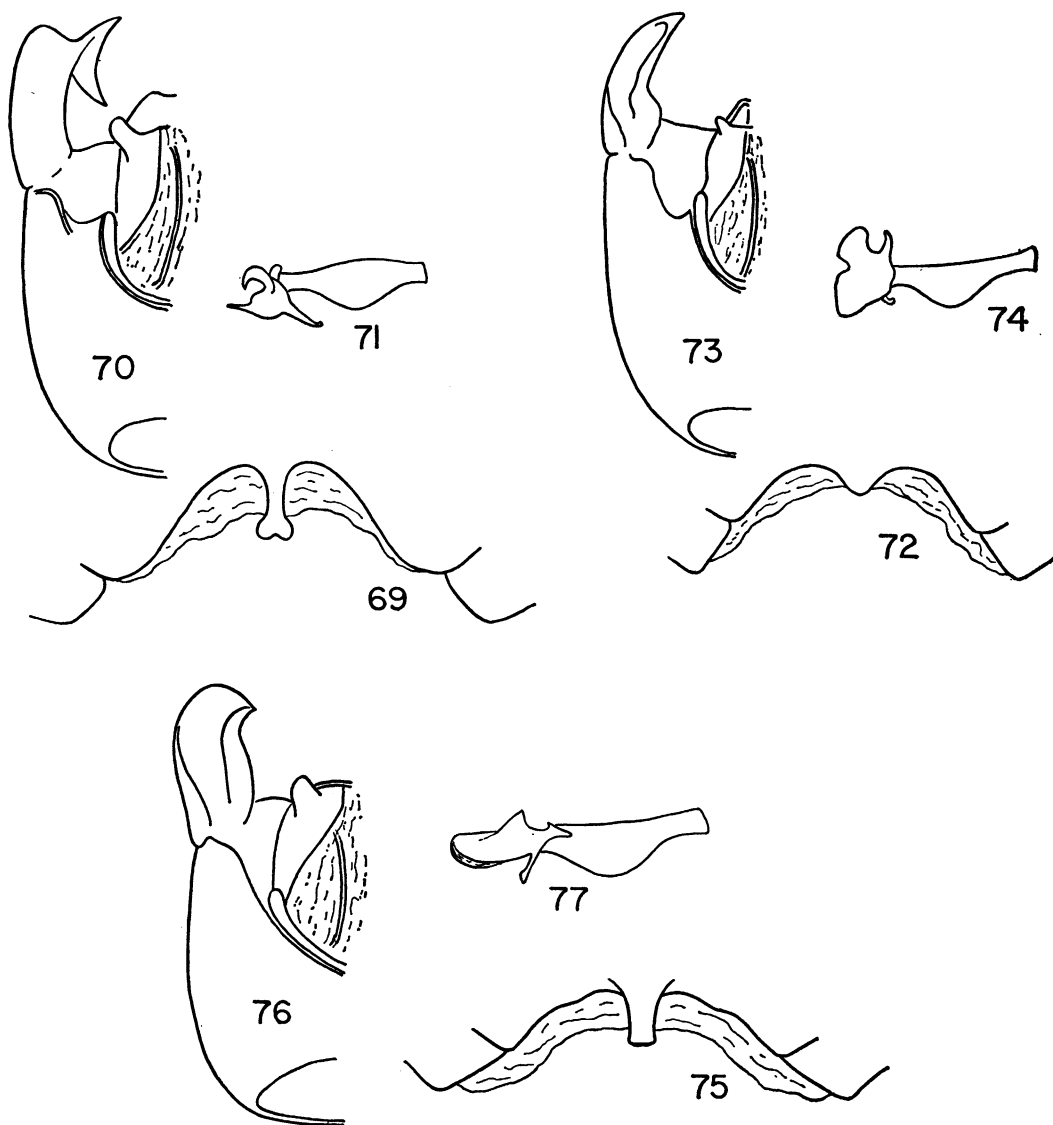
Pygofer (fig. 73) ovate, slightly depressed; central portion of dorsal border prominently emarginate, base of sinus evenly rounded, extending at least one-third of median length of capsule, margins thickened, forming broad, horseshoe-shaped figure; lateral apical lobes elongate, from dorsal aspect somewhat sickle-shaped, about three times as long as wide, dorsal surface of each flat, with central oval fovea, apices gradually curved inward, their tips conically acute; ventral apical margin truncate; submarginal impression broad, very shallow; proctiger, in dorsal aspect, short cylindrical, slightly dilating toward crest, there having pair of stubby tubercles connected by low, thin, transverse ridge, posterior face declivous (not deflexed), trapezoidal, lateral margins thickened, disc with low median ridge; head of paramere (fig. 74) moderate in size, in apical aspect bilobed, the larger inner one somewhat elliptical, concave, outer one more dorsal, small, hook-like.

Length to tip of membranes, 10.75 mm.; width across humeri, 6.25 mm.

TYPES: Holotype, male; British Guiana; no date; A. W. Bartlett, collector; deposited in the British Museum (Natural History). One paratype; same data as for the holotype; deposited in the American Museum of Natural History.

DISTRIBUTION: *British Guiana.*

REMARKS: Unfortunately both specimens of the type series are mutilated, but the morphological characters that remain intact are sufficient to indicate that this species belongs in the *incurvaria* group. The species differs from others in this category by the reduction of the median retrorse tergal process in the male to a mere stubby, semicircular lobe, by the extensively infuscated venter, and by the



FIGS. 69-71. *A. cuspidatus*. 69. Apical margin of seventh tergite in male. 70. Right half of pygofer. 71. Right paramere.

FIGS. 72-74. *A. bartletti*. 72. Apical margin of seventh tergite in male. 73. Right half of pygofer. 74. Right paramere.

FIGS. 75-77. *A. mimeticus*. 75. Apical margin of seventh tergite in male. 76. Right half of pygofer. 77. Right paramere.

distinctive form of the head of each paramere.

No other species yet known approaches *bartletti* in the form of either the paramere or median tergal process. I am at a loss to indicate its relationship to any other species, other than to say that its characters show it fits into the *incurvaria* group, but not in the middle of the phyletic series.

***Antiteuchus cuspidatus*, new species**

Figures 69-71

DIAGNOSIS: Antennae black, bases of segments IV and V ivory, intramarginal groove of anterior margin of pronotum very shallow, vague, median retrorse process of terminal male abdominal tergite strongly declivous,

with terminal obcordate lobe, extreme apex notched; lateral apical lobes of pygofer strongly bicuspidate.

DESCRIPTION: Ovate, mildly convex, semiglossy; above sordid flavescent, densely overlain with fuscous punctures obscuring yellowish background, punctures no farther apart than their own diameters, their broad borders confluent to produce over-all dark brown color; beneath fulvous centrally, infuscated laterally, thoracic sterna pale. Metapleuron with prominent flavescent callus in posterior lateral corner.

Head standard for genus, anteocular sinuses shallow, obtuse, margins parallel, apex semicircularly rounded; punctures very dense, confused. Antennae black, segment I with small flavescent dash on upper surface, bases of segments IV and V broadly ivory, extreme apex of V also ivory; segmental ratios: 25/30/80/100/100, i.e., segment II slightly longer than I, more than one-third but less than one-half of length of III.

Pronotum two and one-half times as wide as long, anterior margin barely excavated centrally, intramarginal groove and transverse discal furrow very shallow, vague; punctures regularly distributed, humeri roundly rectilinear. Scutellum evenly punctured; postfrenal margins parallel, then convergent, apex subangularly rounded. Hemelytra more densely punctured than elsewhere; elliptical, fuscous discal patch visible in paler specimens, main vein bordered ectally by thin, rough, flavescent line; external apical angle of corium roundly acute; membranes slightly exceeding abdominal apex, rich clear brown darkening basally, veins slightly darker. Connexivum fulvous, densely fusco-punctate, sutures and incisures not infuscated.

Apical margin of terminal abdominal tergite in male (fig. 69) rather deeply excavated, not impressed each side of base of retrorse process, transverse membrane prominent, fringe or tufts of hairs lacking; median retrorse process prominent, strongly declivous, almost deflexed, about three times as long as wide, ligulate basally, then abruptly ampliate to form a suborbicular or obcordate lobe with median notch.

Rostrum fulvous, attaining middle of second visible segment. Legs sordid fulvous,

femora densely mottled with fuscous dots, tibiae spotted on both upper and lower surfaces, tarsi in some cases tending to become rubescent. Abdomen fulvous, central portion with scattered, ferruginous, fine punctures, lateral portion with finer, denser punctures becoming obscured owing to extensive infuscation; median furrow broad, shallow, but distinct.

Basal plates of female genitalia subquadri-lateral, a little wider than long; distinctly punctured, apical margins truncate.

Pygofer (fig. 70) broadly oval, evenly convex; central portion of dorsal border deeply emarginate, closed end of sinus evenly rounded, extending at least one-third of median length of capsule, margins thickened to form normal horseshoe-shaped figure; lateral apical lobes stout, two and one-half times as long as wide, prismatic, triangular in cross section, basally subparallel, then abruptly bent inward at essentially right angles to main axis, there distended and having two large, horizontally placed, widely divergent, spinous lobes or large cusps; proc-tiger cylindrical, dilating slightly at crest, there provided with two large, black, obtuse, lobe-like tubercles directed posteriorly, posterior (declivous) face trapezoidal, lateral margins thickened, disc with low median ridge, dorsal membrane unequally, narrowly rhomboidal, reaching crest; head of paramere (fig. 71) proportionately small, vaguely quadrangular, with four unequal lobes, one arising from each corner, lower inner one very acute, upper inner one hook-shaped.

Length to tip of membranes, 13.00 mm.; width across humeri, 7.0 mm.

TYPES: Holotype, male; Cundinamarca, Colombia; no date. Allotype, female; same data as for holotype. Paratypes (three): Males (two): Same data as for holotype. Female (one): Bogota, Colombia, May 28, 1941. The entire type series is deposited in the American Museum of Natural History.

DISTRIBUTION: *Colombia*.

REMARKS: The structure of the pygofer of this species represents the highest degree of specialization of any in the genus. The remarkable "pincer"-like appearance of the apical ends of the lateral apical lobes, with their large, black, spinous cusps, distinguishes this species from all others known to

me. Although the heads of the parameres are not so large, elaborate, or ornate as those in some species, their simplicity in construction may be construed as being a type of specialization by reduction. On the other hand, the declivous, median, retrorse process on the apical margin of the terminal male tergite must be considered as specialized by virtue of the development of its apical, notched lobe, whereas in most other species (*A. peruensis* Ruckes excepted) the process is rather simple in form or is only barely produced beyond the apical margin of the tergite.

I am unable to state to which other species in the *incurvaria* group this new species is most closely related.

***Antiteuchus mimeticus*, new species**

Figures 75-77

DIAGNOSIS: Head slightly shorter than greatest width just before eyes; antennae black, narrow base of segment IV and basal half and extreme tip of segment V sordid ivory; lateral apical lobes of pygofer stout, apices incurved and terminating in minute, acute cusp or denticle; head of paramere four-lobed.

DESCRIPTION: Ovate, weakly convex or subdepressed, semiglossy; above sordid flavescent densely overlain with fine, shallow, fuscous punctures, borders of which are confluent, leaving minute pale markings scattered about; venter fulvous, darkening laterally; thoracic pleura glossy, finely punctured, variegated; central portion of abdomen glossy, lateral portion semimatte, somewhat alutaceous, median area impunctate.

Head about one-tenth shorter than wide just before eyes, apex semicircularly rounded, punctures dense but not confused, surface slightly rugulose. Antennae black, segment I dusky, narrow base of segment IV, basal half and extreme tip of segment V, sordid ivory; segmental ratios: 25/30/70/80/90, i.e., segment II slightly longer than segment I, more than one-third but less than one-half of length of segment III.

Pronotum two and one-third times as wide as long; anterior margin barely excavated centrally, intramarginal groove thin, long, extending to behind eyes; shallow transverse furrow across disc behind cicatrices; many

punctures two to three times as far apart as their own diameters, surface, except for transverse furrow, smooth; humeri roundly rectilinear. Scutellum rather evenly punctured, punctures hardly more than twice as far apart as their diameters, many closer together; postfrenal margins parallel, then convergent, apex subangularly, obtusely rounded. Hemelytra more densely and evenly punctured than elsewhere, many punctures touching one another; no discal patch recognizable; main vein without accompanying parallel flavescent line. Connexivum dark fulvous, densely punctured, sutures between segments vaguely infuscated.

Apical margin of terminal abdominal tergite in male (fig. 75) moderately emarginate, distinctly sinuate each side of median retrorse process, having prominent transverse membrane, lacking fringe or tufts of hair; median retrorse process suboblong, rather flat, not much longer than wide, apex slightly dilated, feebly roundly truncate, its extreme margin vaguely declivous, barely exceeding transverse membrane.

Thoracic pleura sordid flavescent, unevenly punctured; thoracic sterna tan, impunctate; abdomen rich fulvous, darkening slightly laterally. Rostrum tan, attaining apical margin of second visible abdominal sternite. Legs tan to dark tan, femora densely spotted with fuscous dots, becoming confluent apically, tibiae infuscated, without spotting, tarsi dark tan. Median abdominal furrow broad, shallow, but distinct. Metapleuron with small flavescent callus in posterior lateral corner.

Pygofer (fig. 76) broadly ovate, evenly convex; central portion of dorsal border deeply emarginate, closed end of sinus subangular, reaching half of length of capsule, margins slightly thickened, horseshoe-shaped outline less well defined than in allied species; lateral apical lobes stout, prismatic, triangular in cross section, distinctly arcuate, dorsal surfaces flat, with oblique sulcus, apices abruptly curved inward, terminating in stubby acute cusp or minute denticle; proctiger stoutly cylindrical, posterior face declivous, trapezoidal in outline, lateral margins obtuse but not elevated, disc with vague median raised ridge, crest with pair of promi-

nent, black, triangular, erect tubercles; ventral apical margin very gently, evenly convex-arcuate across width, submarginal impression broadly lenticular, moderately shallow; head of paramere (fig. 77) small, thin, four-lobed, dorsal lobe largest, spoon-shaped, convex on anterior surface and there obscurely rugulose, three ventral lobes much smaller, triradiate.

Length to tip of membranes, 12.0 mm.; width across humeri, 6.5 mm.

TYPE: Holotype, male; Tingo Maria, Peru; November, 1949; H. A. Allard, collector; deposited in the United States National Museum.

DISTRIBUTION: *Peru*.

REMARKS: The median retrorse process on the terminal male tergum most closely resembles that of *A. varians*, new species, described above, but is flatter and not at all tectiform in contour. The presence of a broad pale annulus at the base of antennal segment IV and the superficial similarity of the paramere are two characters that seem to ally *mimeticus* with *A. guianensis*, new species, also described above, and to which it may be more closely related.

I have selected the specific name *mimeticus* for this species to imply the superficial similarity in appearance between this species and several others in the *incurvaria* group.

The following species is omitted from the key to the *incurvaria* group because specimens of it were not available when that key was constructed.

Antiteuchus pallescens Stål

Antiteuchus pallescens STÅL, 1868, p. 18.

DIAGNOSIS: Antennal segment II nearly half of length of III; segment IV totally black, V broadly ivory at base, infuscated apically; corium with minute, smooth, flavescent, discal spot.

DESCRIPTION: Fuscous or grayish yellow; densely nigro-punctate or fusco-ferrugino-punctate, punctures on pronotum and scutellum uniting into small vermiculate clusters. Abdominal venter piceous or castaneous, paler and less punctured centrally.

Antennae black, segment II subequal to I, approaching half of length of segment III, segment IV totally black, V broadly ivory at base, infuscated toward apex. Pronotal disc

smoothish. Scutellum reaching between apical angles of fifth abdominal tergite. Costal margin of corium somewhat convex-arcuate, slightly sinuate toward base; disc of corium with small, flavescent, laevigate spot; membranes sordid brown, slightly exceeding abdominal apex.

Rostrum pale fulvous, attaining third visible abdominal sternite; median abdominal furrow shallow, vague. Metapleuron with flavescent callus in posterior lateral corner.

Apical margin of genital segment in male deeply emarginate, lateral apical lobes long, sinus between them quadrangular, basal recess subrotund.

Length to tip of membranes, 12.0 mm.; width across humeri, 8.0 mm.

TYPES: Cotypes, male and female; deposited in the Zoological Museum (Fabrician collection), Copenhagen. Type locality: South America.

REMARKS: There can be no doubt that *A. pallescens* belongs in the *incurvaria* group of species. The relatively great length of antennal segment II, the flavescent fifth segment with its infuscated apex, the flavescent callus on the metapleuron, the long lateral apical lobes of the pygofer, and general size are basic characters that conform to the requirements of the *incurvaria* group. Unfortunately the last time that I studied the Fabrician specimens was in 1960. At that time I failed to make more detailed notes than are included in the foregoing description, not realizing the importance of the details of structure of the terminal abdominal tergite in the male and the component parts of the pygofer. The male genital organs were not dissected, but from superficial observation the genital segment bears considerable similarity to the pygofer of other species in this complex.

Stål, in his original description, compares this species with *A. sepulcralis*, to which it apparently bears only generic relationship. The small, flavescent, discal point on the corium is one character by which it can be separated from other species. *Antiteuchus punctissimus*, *confinium*, and *variens*, all new species that are described in the present paper, are closely related to *pallescens* by virtue of the same color pattern shown by their antennae.

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