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## Descriptions of some West Indian Scarabaeidae primarily in the Natural History Museum, Basel<sup>1</sup>

By H.F. Howden

**Abstract:** Six new taxa of West Indian Scarabaeidae are described and illustrated. These are *Ataenius klapperichi* Howden, from Hispaniola; *Ceratocanthus baniensis* Howden, from Hispaniola; *Ceratocanthus pararelucens* Howden, from St. Vincent; *Cloeotus jamaicensis* Howden, from Jamaica; *Hispanioryctes wittmeri* Howden and Endrődi, new genus, new species, from Hispaniola, and *Hemiphileurus scutellatus* Howden and Endrődi, from Hispaniola. In addition to descriptions of new taxa, a discussion of West Indian Geotrupinae includes a key to the three currently recognized species of *Neoathyreus* occurring on Cuba and Hispaniola.

### Introduction

In 1975, through the kindness of Dr. W. Wittmer, I was able to study a large collection of Scarabaeidae from the Dominican Republic that is currently housed in the Natural History Museum, Basel. Several very distinct, undescribed species were found and are described herein. Two additional new species, one from the British Museum (Natural History), London, loaned to me by Mr. Pope, and one collected and given to me by Dr. S. Peck, are also included. Specimens belonging to museums are referred to herein by city; i.e., Basel or London. The section on new Dynastinae has been done in collaboration with Dr. S. Endrődi Sebo and the two species described in that section should be credited to both authors. The scanning electron microscope photographs illustrating the various species were taken by Mr. L. Ling, Carleton University.

### Aphodiinae

The paper by CHAPIN (1940) on West Indian Aphodiinae, while still useful, lacks many records and a number of species have been subsequently described. Of the genera listed in Chapin's work, *Ataenius*

<sup>1</sup> The Dynastinae section has been co-authored with Dr. S. Endrődi Sebo, Ungarische Naturwissenschaftliche Museum, Zoologische Abteilung, 1088 Budapest, Baross utca 13 (Ungarn).

is undoubtedly the genus most needing revision. In the material examined from Hispaniola, twelve species could be identified or at least assigned to a species group. One species however cannot be keyed in Chapin's paper nor does it appear in CARTWRIGHT's (1974) revision of the United States and Canadian species. Of the species listed by CHAPIN (1940) it is closest to *imbricatus* (Melsheimer), but differs in many important characters. Since it apparently has no close relatives in the West Indies or adjacent areas, a description of this unusual species appears warranted. I have adopted the terminology and format used by CARTWRIGHT (1974) for the description.

**Ataenius klapperichi** Howden, n. sp. (Figs. 1, 2)

**HOLOTYPE.** Female (Fig. 1), length 4.3 mm, greatest width 1.8 mm. Oblong, convex, feebly shining, piceous, elytra rough, most elytral punctures each with a short, upright seta. Head (Fig. 2) convex, edge of clypeus slightly reflexed, edge rounded each side of moderately deep emargination, sides nearly straight to abruptly rounded genae; surface of clypeus narrowly concave just posterior to median emargination, otherwise convex, transversely rugose, frontal area transversely rugose with scattered moderate punctures posteriorly, vertex between eyes moderately, closely punctate, many punctures confluent. Pronotum (Fig. 2) 1.51 mm wide and 1.1 mm long, moderately convex, anterior angles rounded, posterior angles broadly rounded, sides slightly arcuate, base arcuate, base and posterior two thirds of sides marginated, base and sides fimbriate, sides feebly crenate, marginal setae separated by approximately two-thirds their own length; surface centrally fairly evenly, closely, moderately punctate, the punctures becoming larger, contiguous laterally, surface near anterior angles granular, each puncture usually with a very fine, semi-recumbent seta. Elytra (Fig. 1) 2.55 mm long, width 1.88 mm, sides to apical third nearly parallel, humeri moderately dentate, striae fairly deep, broken by minute punctures, intervals convex, feebly carinate, the raised portions of intervals irregularly interrupted by large punctures in a row on each side of carina, most punctures in outer row of each interval each with short, stout, upright seta; 10th interval slightly lower than others, surface near 9th and 10th striae granular; 4th, 6th and outer intervals apically irregular, often not extending to rounded apex. Mesosternum granular, dull, with many fine, recumbent setae with low, rounded carina between middle coxae; middle coxae granular and finely setose. Metasternum centrally shining, midline shal-

lowly indented, surface either side coarsely punctate, metasternum laterally finely granular; metasternal triangle poorly defined, largely smooth and shining. First visible abdominal sternum with faint marginal line, remaining four sterna with increasingly wider fluting along anterior margin, the fluting of the 5th sternum at middle slightly less than half as long as sternum, surface coarsely punctate side to side, punctures generally separated by more than one diameter. Last four sterna at middle of approximately equal length. Pygidium with disc slightly eroded, surface dull and finely granular. Fore femur with perimarginal groove, posterior (ventral) surface with coarse coalescing punctures, giving rugose appearance, depressed areas granular. Middle femur with moderate, well separated punctures, most with a central seta, shining between, posterior femoral line extending to apical fourth. Hind femur with punctures and setae similar to middle femur, posterior femoral line lacking, posterior femoral edge granular in basal half. Apical fringe of posterior tibia consisting of four or five short setae, a moderate accessory spine and one seta between spurs and spine. Hind tarsus with basal segment slightly larger than largest tibial spur, basal segment slightly longer than next three segments combined.

Type material: Holotype, Dominican Republic, Colonia, 1000 m, 12 August 1972, J. and S. Klapperich (Basel). Paratypes, 6: all same locality and collector as holotype, collected on 14 April 1972, 19 May 1972, 20 June 1972, 12 August 1972 (Basel, Howden).

Variation is slight with length varying from 4.2 to 4.4 mm. Pronotal punctures vary slightly in size and density but otherwise there are no noticeable differences.

The species is quite distinct from most of the known West Indian *Ataenius*. The evenly raised, poorly carinate 1st to 8th elytral intervals, the shining intervals with two rows of large punctures on either side of the carina, the outer punctures of each interval with erect setae all give the elytra an unusually rough and setose appearance. In CARTWRIGHT's 1974 key to the *Ataenius* of the United States and Canada the species keys to couplet 12; since the intervals are neither weakly convex nor alternately higher it does not readily key beyond this point.

The species is named in honor of the collectors, J. and S. Klapperich.

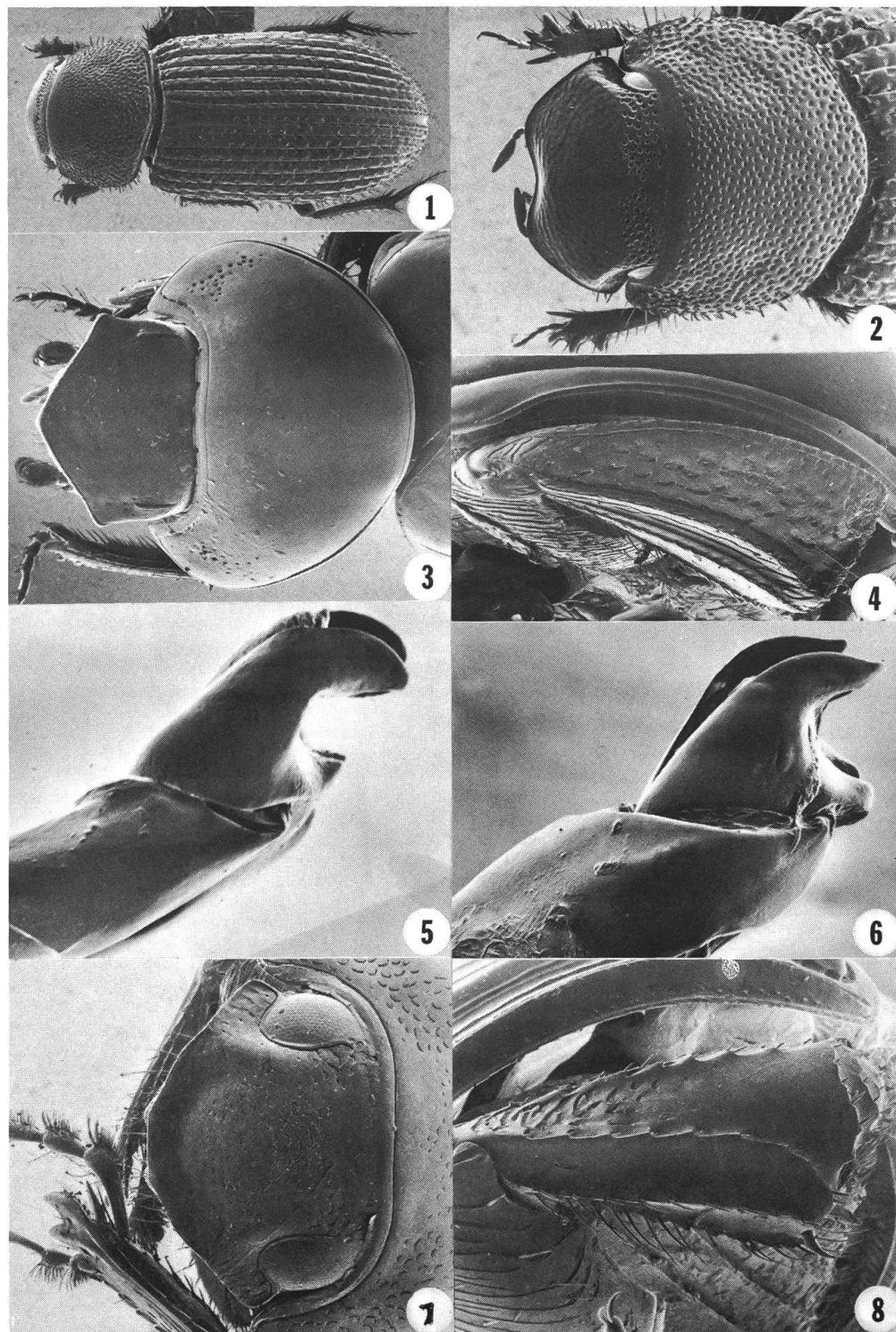
#### Ceratocanthinae

In 1968 MARTINEZ established the tribe Ceratocanthini as a substitute for the name Acanthocerini based on the pre-occupied generic name

*Acanthocerus* Macleay 1819. In 1842 WHITE noted that the Hemipteran genus *Acanthocerus* Palissot de Beauvois 1818, predated Macleay's usage of *Acanthocerus* Macleay in the Scarabaeidae and proposed the replacement name *Ceratocanthus*. The name *Ceratocanthus* White was largely overlooked by subsequent workers until 1968. Subsequently CARTWRIGHT and GORDON (1971) briefly reviewed the problem and utilized the name *Ceratocanthinae* at the subfamily level.

Two genera, *Ceratocanthus* White and *Cloeotus* Germar are represented in the West Indies. The *Ceratocanthinae* are apparently more diversified in the West Indies than the past literature would indicate since several new species have been discovered since 1960. There seem to be several reasons for this. Most species rarely, if ever, are attracted to light. Species of *Ceratocanthus*, and, less frequently, *Cloeotus*, can be taken by beating, particularly branches containing clumps of dead leaves. Many more specimens, particularly in the genus *Cloeotus*, can be collected by sifting moist forest litter. If this technique is used more frequently, I suspect the number of *Ceratocanthinae* known from the West Indies will be considerably increased.

In *Ceratocanthus* four species have been described from the West Indies, *pyritosus* (Erichson, in Germar, 1843) from St. Thomas, and *chalceus* (Germar, 1843), *semistriatus* (Germar, 1843) and *gundlachi* (Harold, 1874) from Cuba. While the types have not been seen, except for a syntype of *pyritosus*, the species can tentatively be separated as follows. Both *pyritosus* and *chalceus* are relatively large species, the elytra measuring 4.5 to 5.0 mm in length while in *semistriatus* and *gundlachi* the elytral length rarely exceeds 3.0 mm. *C. pyritosus* has the disc of the clypeus and frons distinctly punctate and ten elytral striae are indicated, either by rows of punctures or grooves; *chalceus* on the other hand has the clypeus and frons impunctate and only the sutural and marginal striae represented. In the smaller species, *semistriatus* has the dorsal portion of each eye very narrow and elongate and a distinct band of coarse punctures paralleling the lateral pronotal margins; *gundlachi* has each eye dorsally elongately oval and the sides of the pronotum with numerous small punctures that gradually become obsolete medially. These observations are based on Cuban specimens of the three species described from Cuba. However since they were identified from the rather brief original descriptions there is the possibility of error since more than these species may be represented in Cuba. The characters mentioned for *pyritosus* are based on a syntype in the British Museum (Natural History).



Figs. 1-8. 1, *Ataenius klapperichi*, dorsum; 2, *A. klapperichi*, head and pronotum; 3, *Ceratocanthus baniensis*, head and pronotum; 4, *C. baniensis*, hind tibia; 5, *C. pararelucens*, male genitalia; 6, *C. relucens*, male genitalia; 7, *Cloeotus jamaicensis*, head; 8, *C. jamaicensis*, hind tibia.

Two additional species of *Ceratocanthus*, both apparently undescribed, occur in the West Indies, one on Hispaniola and one on St. Vincent. They belong to the group of large species, being related to the *pyritosus-chalceus* group.

*Ceratocanthus baniensis* Howden, n. sp. (Figs. 3, 4)

**HOLOTYPE.** Female, color piceous with faint aeneous sheen. Measurements of head: length 1.1 mm, width 2.0 mm; pronotum: median length 1.6 mm, greatest width 3.5 mm; elytra: length 3.7 mm, greatest combined width 3.5 mm. Clypeus (Fig. 3) with sides nearly straight from just anterior of ocular area to sharp obtuse median angle; clypeus laterally almost right angled on either side in front of eye. Anterior edge of clypeus faintly margined; disc very finely punctate anteriorly; a few moderate sized punctures in the median area posteriorly. Frons and vertex mostly smooth and impunctate; a few small punctures laterally near and in front of eye; eye dorsally reduced to a longitudinally narrow slit (length to width, 10:1); width between eyes 1.6 mm. Pronotum (Fig. 3) with marginal line (bead) fine, complete. Pronotal disc faintly convex, surface smooth and polished, with a group of approximately 25 coarse punctures on each side paralleling the lateral margins. Scutellum smooth, impunctate. Each elytron with only sutural and marginal striae evident. Sutural stria fine, only slightly impressed with well spaced minute punctures; the stria deeper and more distinctly punctate posteriorly. Marginal stria from humerus to apex very deeply impressed, the impressed surface shagreened and with indistinct, very shallowly depressed large punctures. Surface of elytron between sutural and marginal striae smooth and shining, lacking any indication of striae. Fore tibia with three small teeth on outer margin in apical sixth, remainder of margin finely serrate. Middle femur with posterior margin obtusely angled at apical third, a character present in many related species. Middle tibia in flattened outer three-fourths with well spaced irregular strigae extending from inner area at an angle towards apex and outer margin; outer area of tibia with a fine marginal line and a row of coarse punctures just inside line. Hind tibia (Fig. 4) with flattened surface in outer half with large, shallow, irregular, crescentic punctures, strigae almost entirely lacking.

Male unknown.

Type material: Holotype, Dominican Republic, Baní, 65 m, 11 July 1971, J. and S. Klapperich (Basel).

*Ceratocanthus baniensis* may be distinguished from any other described species in the genus occurring in the Caribbean region, except *chalceus* (Germ.), by the lack of all striae between the sutural and marginal striae. It can be separated from the closely related *chalceus*, which occurs on Cuba, by the cluster of coarse punctures paralleling the lateral pronotal margin which is lacking in *chalceus*, by the lack of elongate strigae on the flattened outer surface of the hind tibia, and by the extremely narrow dorsal portion of the eye.

*Ceratocanthus pararelucens* Howden, n. sp. (Fig. 5)

HOLOTYPE. Male, color rufo-piceous with aeneous sheen. Measurements of head: length 1.3 mm, width 2.5 mm; pronotum: median length 2.1 mm, greatest width 4.0 mm; elytra: length 4.5 mm, greatest combined width 4.1 mm. Clypeus with sides straight from anterior of ocular area to sharply rounded obtuse median angle; clypeus laterally right angled on either side anterior to eye. Anterior edge of clypeus near middle with distinct marginal line; disc medially feebly, shallowly punctate. Frons and vertex smooth and impunctate; an area of punctures along inner margin beside eye: eye dorsally large, oval, approximately twice as long as wide: width between eyes 1.6 mm. Pronotum with marginal line largely complete and anteriorly deeply indented behind eyes near anterior angles, obsolete medially behind vertex. Pronotal disc moderately convex, surface smooth and polished, impunctate. Scutellum smooth, impunctate medially and posteriorly, a few fine punctures near lateral angles. Each elytron with 8 striae represented in apical third. Two additional striae faintly indicated on disc by rows of minute punctures. Alternate apical intervals between striae (excluding ones adjacent to marginal and sutural stria) feebly elevated. Sutural stria in basal half represented by a very fine line and row of punctures. Marginal stria terminating at basal tenth, the adjacent stria terminating at basal half, the remaining striae being reduced gradually, terminating in apical fourth to sixth. Disc of elytron between striae or punctures smooth and shining. Fore tibia with apical tooth larger than remainder, margins appearing serrate with eight or nine small teeth becoming reduced in size basally. Middle femur with posterior margin angled as is typical in related species. Middle and hind tibiae in flattened outer three-fourth

with well spaced abruptly indented lines (strigae), the inner ones fairly elongate, sometimes branched, outer ones short and crescentic. Genitalia as in fig. 5.

Type material: Holotype, male, St. Vincent, WI, H.H. Smith 29, accession number 1903. 336. (London). Paratypes 4; 2 same data as holotype; 1 Windward side St. Vincent, WI, H.H. Smith; 1 Leeward side St. Vincent, WI, H.H. Smith, 233. (London, Howden).

Variation in the type series is slight. Elytral length, as an indicator of size, varies from 4.1 to 4.5 mm. Except for size, visible characters are remarkably constant.

Previously *pararelucens* has been confused with *relucens* Bates which occurs in Panama and Colombia and *relucens* is listed by BLACKWELDER (1944) as occurring on St. Vincent. This latter record almost certainly is based on a misidentification of the species described herein. *Ceratocanthus pararelucens* can be separated from *relucens* by the unusually deeply indented lateral anterior pronotal marginal line (from angle to behind eye), by the very feebly raised intervals between the striae in the apical fourth of the elytra, and by differences in the male genitalia. In *pararelucens* the tips of the parameres (Fig. 5) are abruptly rounded, while in *relucens* (Fig. 6) they are acutely pointed.

Since 1960 three West Indian species of *Cloeotus* have been described (*farri* Howden 1970, *pecki* Howden 1970, and *pauliani* Chalumeau and Cambefort 1976), thus doubling the species described from the area. A seventh species is described below.

#### *Cloeotus jamaicensis* Howden, n. sp. (Figs. 7, 8)

HOLOTYPE. Female, color dark brown to piceous. Measurements of head: length 1.2 mm, width 1.7 mm; pronotum: median length 1.4 mm, width 2.2 mm; elytra: length 3.1 mm. Clypeus (Fig. 7) very feebly bidentate and slightly emarginate between dentation; margin distinctly reflexed; disc distinctly punctate in reflexed area anteriorly and laterally, vaguely obsoletely punctate elsewhere; clypeal suture absent. Frons vaguely punctate, some areas appearing finely rugose. Vertex similar to frons except extreme posterior smooth and shining with area adjacent to each eye with a few coarse punctures, each bearing a fine seta. Interocular distance 2.3 times ocular width. Pronotum with marginal line (bead) complete. Pronotal disc feebly explanate laterally. A vague swelling present midway between median line and lateral margin and approximately midway between anterior and posterior margins. Sur-

face of pronotum mostly smooth and shining with widely spaced, shallowly indented crescentic lines. Scutellum with a few minute punctures; surface largely smooth and shining. Each elytron with 13 striae, each represented by rows of very small elongate punctures, the striae impressed only in lateral fourth and apical fifth, the first ten striae on disc evenly spaced. Intervals flat, first (sutural), sixth, eighth, and tenth intervals elevated near apex. Fore tibia with three teeth on outer margin in apical fifth, remainder of margin with six or seven serrations. Outer posterior surface of hind tibia (Fig. 8) in basal half irregularly, transversely, rugose; the apical half lacking any indication of rugae, largely smooth and shining. All tarsi with basal four segments ventrally hairy.

Male unknown.

Type material: Holotype, female, Jamaica, Portland Parish, one mile west Ecclesdown, 1500 feet, 9–12 August 1974, S. Peck, taken in dung trap 28–32 (Howden).

*Cloeotus jamaicensis* may be readily identified by the unusually smooth and shining area present on the posterior outer apical half of the hind tibia. It is closely related to *Cloeotus farri* Howden, which also occurs in Jamaica, but may be separated from this species by its larger size and greatly reduced dorsal punctuation. *Cloeotus jamaicensis* along with the other two described species from Jamaica, *farri* Howden and *pecki* Howden (1970), can be distinguished from other West Indian species by the feeble median emargination of the clypeus, a character lacking in the species described from other West Indian islands.

### Geotrupinae

In the West Indies Geotrupinae have been recorded only from the islands of Cuba and Hispaniola. In his checklist, BLACKWELDER (1944) lists eight species of Geotrupinae from these islands, four *Athyreus* Macleay (now placed in *Neoathyreus* Howden and Martinez, 1963) and four *Geotrupes* Latreille. I have not been able to verify the West Indian records for *Geotrupes*, all listed from Hispaniola. All specimens personally examined labeled Hispaniola, Dominican Republic, or Haiti represent common species occurring in the United States and I suspect are mislabeled. I have not seen any recently collected material. On the other hand, the genus *Neoathyreus* appears to be represented by three endemic species, one occurring on Cuba and two on Hispaniola. A key to the species and a note on synonymy follows.

### Key to the *Neoathyreus* of Cuba and Hispaniola

1. Anterior clypeal carina (Figs. 11, 13) lowest laterally, evenly rising to obtuse median denticle. Hispaniola . . . . .	2
Anterior clypeal carina (Fig. 9) bidentate, highest on either side of median emargination. Cuba	
<i>Neoathyreus castaneus</i> (Guérin Méneville).	
2. Fore tibia with 7 or 8 teeth on outer margin; posterior clypeal carina (Fig. 13) complete, not interrupted medially; lateral pronotal margin below fossa broadly interrupted, margin indented and broken for distance at least equal to width of fossa; pronotal carinae as in Fig. 14.	
<i>Neoathyreus tweedyanus</i> (Westwood).	
— Fore tibia with 6 teeth on outer margin; posterior clypeal carina (Fig. 11) briefly interrupted medially; lateral pronotal margin below fossa slightly indented and briefly interrupted, marginal interruption equal to no more than half the width of the fossa; pronotal carinae as in Fig. 12.	
<i>Neoathyreus biceps</i> (Felsche).	

### *Neoathyreus castaneus* (Guérin Méneville), NEW COMBINATION

*Athyreus castaneus* GUÉRIN MÉNEVILLE, 1830, p. 83, plate 22, fig. 7. Type not seen. Cuba.  
*Athyreus angulatus* KLUG, 1843 (45), p. 28. NEW SYNONOMY. Type not seen. Cuba.

Since I have seen only one species from Cuba and since both descriptions apparently refer to the Cuban species, I believe the above synonymy to be correct. The date of description of *castaneus* is based on the date of issue of plate 22 which was issued according to COWAN (1971) on 25 September 1830. The figure (7) coupled with the name *Athyreus castaneus* is sufficient to validate the name; the text of the description was published subsequently. For a detailed description of the various dates of publication of the work by Guérin Méneville consult COWAN (1971).

### *Neoathyreus tweedyanus* (Westwood), NEW COMBINATION

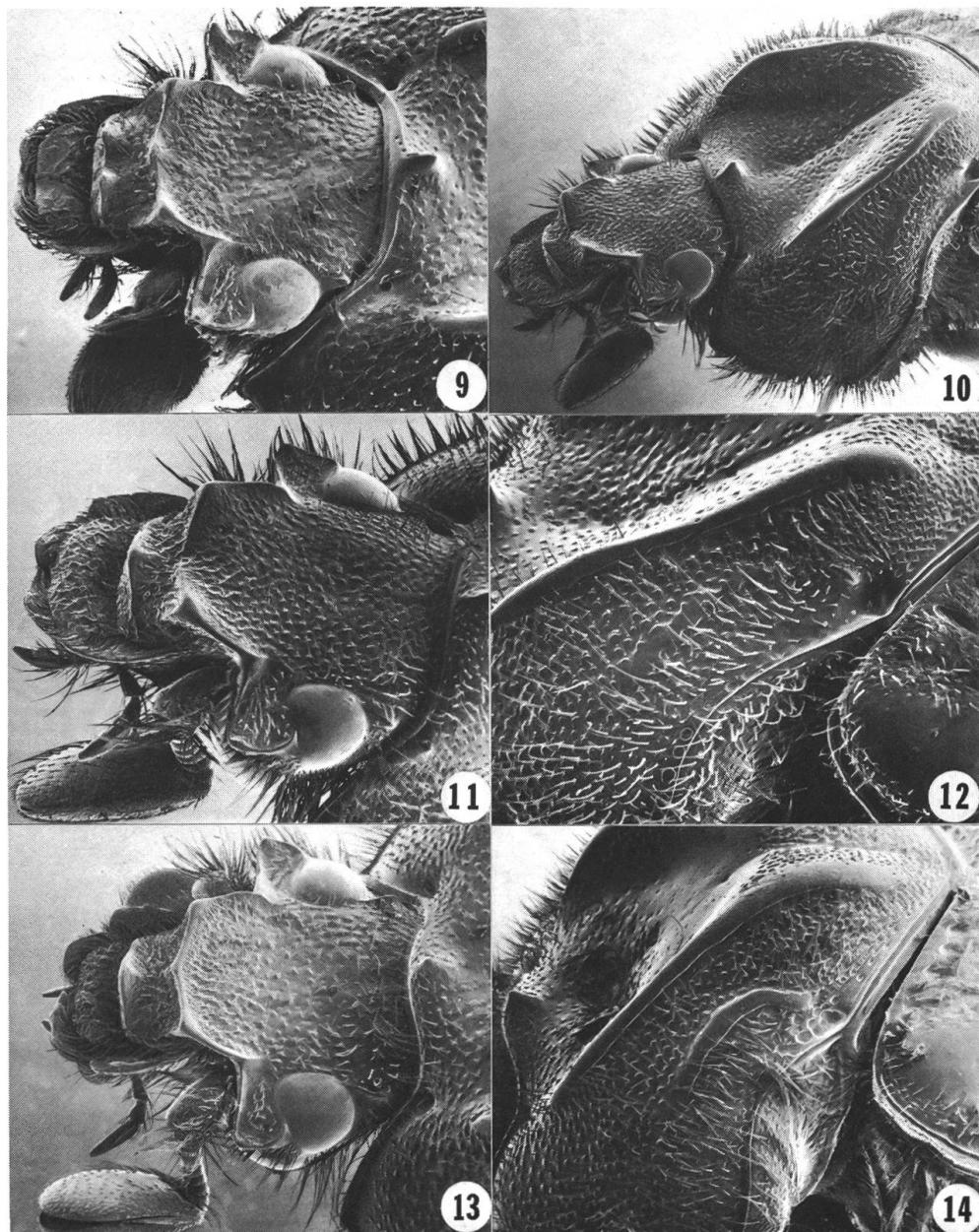
*Athyreus tweedyanus* WESTWOOD, 1848, p. 387. Type, female in British Museum (London). Haiti. Type examined.

The species occurs in both Haiti and the Dominican Republic. The few specimens seen with exact data were taken near the coast at elevations between 500 and 1000 meters.

### Neoathyreus biceps (Felsche), NEW COMBINATION

*Athyreus biceps* FELSCHE, 1909, p. 763. Type not seen. Haiti.

The range of *biceps* seems to be largely sympatric with *tweedyanus*. It has been taken in both Haiti and the Dominican Republic in areas near the coast.



Figs. 9–14, *Neoathyreus* spp. 9, *N. castaneus*, head; 10–12, *N. biceps*: 10, head and pronotum; 11, head; 12, pronotal carinae; 13, 14, *N. tweedyanus*: 13, head; 14, pronotal carinae.

## DYNASTINAE

Two new Dynastinae are represented in the material seen from Hispaniola. One species is placed in the genus *Hemiphileurus*; the other represents a new genus in the Oryctini. The latter superficially resembles some females of the genus *Strategus* that occur on Hispaniola, but the new genus can easily be separated from *Strategus* by the absence on the pronotum of the posterior marginal line.

**Hispanioryctes** Howden and Endrødi, n. g.

Clypeus (Fig. 17) very narrow, elongate, sides basally concave, apex truncate and feebly reflexed. Frons medially with small conical tubercle. Mandibles broadly exposed, apices rounded, sides curved inward at apical thirds, then outward (sinuate). Pronotum evenly convex, lacking protrusions or concavities; marginal line (bead) present only anteriorly and laterally. Scutellum triangular. Elytra longer than broad, only sutural and marginal striae distinct; other striae obsoletely indicated by lines or rows of punctures. Fore tibia with four teeth, basal one small, strongly obtuse. Hind tibia apically with outer edge triangularly produced at middle and posteriorly, the concave edge between with two or three setae. Distal tarsal segment of fore leg of male one-third longer than that of female. Basal tarsal segment of hind leg (both sexes) simple, lacking an apical spine. Tarsal onychium with three or four setae.

Type-Species: **Hispanioryctes wittmeri** Howden and Endrødi, n. sp.

We place this genus in the Oryctini because of the lack of the spine on the basal tarsal segment of the hind leg and lack of obvious sexual dimorphism. Characters such as the somewhat longer fore tarsus in the male are often found in the American Dynastini, and females of *Golofa* show a number of similarities to *Hispanioryctes*. However the lack of an apical spine on the basal segment of the hind tarsus separates *Hispanioryctes* from *Golofa* or other Dynastini and places it among the American Oryctini having four teeth on the anterior tibia. In this group with four teeth it differs from *Podischnus*, *Enema*, *Licnostrategus* and *Strategus* by the lack of hairs, etc., on the head and prothorax of the males, and from both *Licnostrategus* and *Strategus* by the lack of the posterior pronotal marginal line.

The formation of the generic name is a combination of the island name (Hispaniola) plus the tribal name (Oryctini).

**Hispanioryctes wittmeri** Howden and Endrödi, n. sp. (Figs. 15–19)

**HOLOTYPE.** Male, length 31.0 mm, greatest width 16.5 mm. Dorsally dark reddish brown, head brownish black, some smooth areas of elytra with oily sheen. Some punctures laterally near eyes, along prothoracic margins and on elytral epipleura with reddish setae. Head (Fig. 17) with clypeal apex truncate and feebly reflexed, sides posteriorly arcuately divergent; clypeal surface punctate, raised medially, raised area contiguous with and forming part of posterior clypeal tubercle. Surface of frons and vertex, except area near posterior margin, coarsely, irregularly, often contiguously punctate. Eye large, almost exactly one-half width of vertex between eyes. Antenna 10-segmented, club slightly shorter than adjacent segments. Prothorax (Figs. 15, 16) evenly convex, unmodified, broader than long (11:7.8), broadest just behind middle; sides laterally more abruptly arcuate near middle; anterior edge except near angles nearly straight; posterior edge feebly sinuate; edges anteriorly and laterally with marginal line; pronotal surface evenly, heavily, coarsely punctate, most punctures discrete, separated by less than own diameter. Scutellum basally with a few small punctures, otherwise smooth and shining. Elytral length to width ratio about 18:15, widest in apical half. Sutural stria well developed, other striae on disc very feeble, nearly impunctate, striae near lateral margins not impressed but clearly delimited by rows of punctures; elytral intervals largely smooth, with scattered fine punctures. Pygidium nearly flat basally, becoming distinctly convex in apical third; surface medially and apically with scattered fine punctures; lateral angles and basal margin finely rugose. Prosternal process short, conical, weakly convex posteriorly. Propygidium without stridulatory surfaces. Genitalia as in figs. 18, 19.

**ALLOTYPE.** Female, length 31 mm, greatest width 18 mm. Externally differing from male in the following characters: Clypeus anteriorly more acuminate pointed; mandibles laterally more sinuate; antennal club slightly shorter; distal tarsal segment of fore leg approximately one-fifth shorter; pygidium less convex near apex; apical abdominal sternite broader, apical margin evenly arcuate.

Type material: Holotype, male, Dominican Republic, Valle Nuevo, 2400 m, 5 October 1972, J. and S. Klapperich (Basel). Allotype, female, same data as holotype except collected 16 August 1972 (Basel). Para-

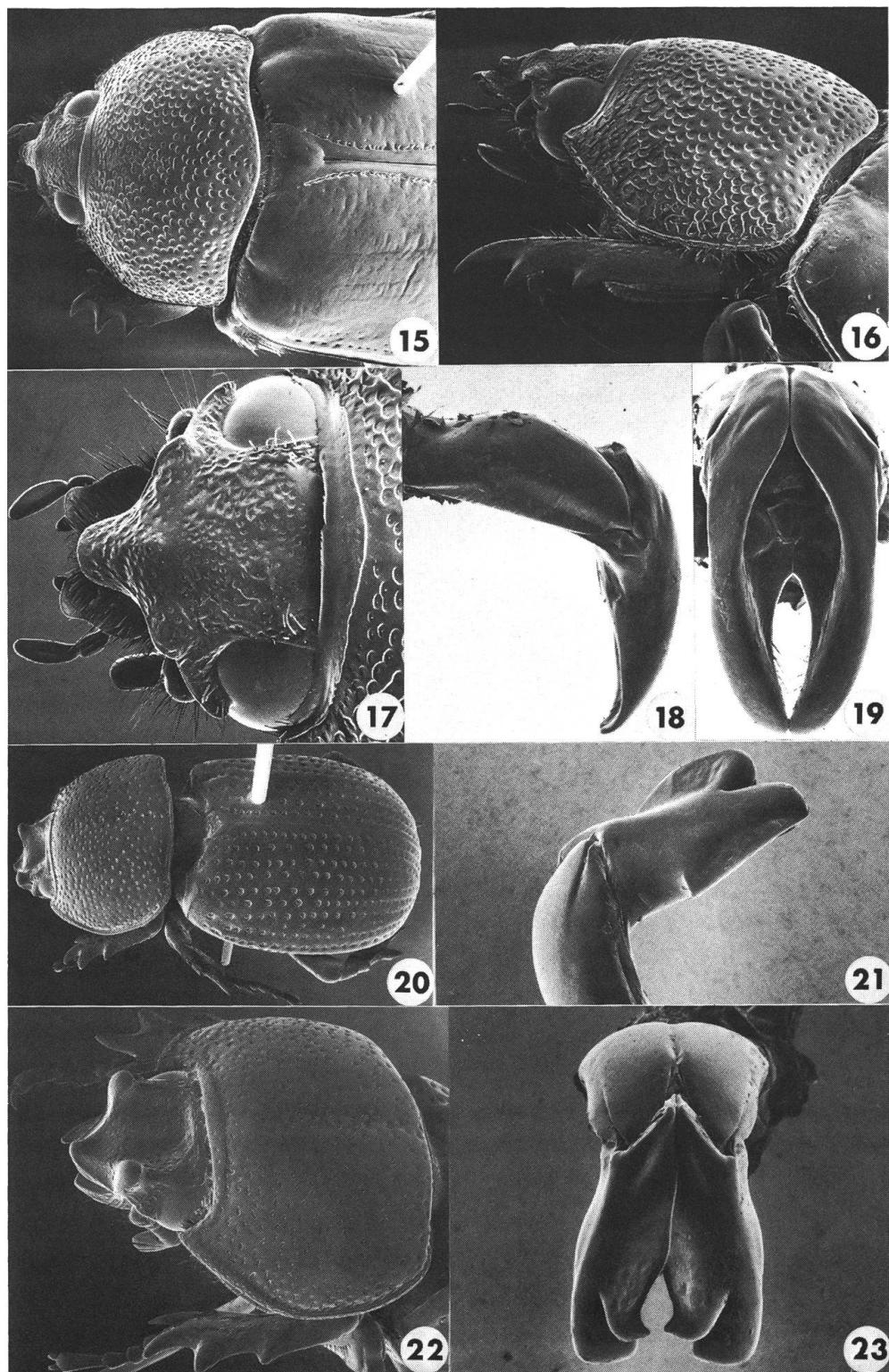
types: 6 males, 7 females; 12 same locality as holotype, collected on 16 August 1972, 21 September 1972, and 5 October 1972; 1 male, Dominican Republic, Cordill. Centr., Cazabita, 1250 m, 20 July 1974, J. and S. Klapperich (Basel, Endrődi, Howden).

Variation in the series is moderate. Males vary in length from 24 to 31 mm and females from 31 to 35 mm. Most specimens have the elytra predominantly shining, in one female the elytra are dull, in another specimen the elytra are transversely, irregularly wrinkled. In males the length of the antennal club and of the distal segment of the fore tarsus seem to increase with the increased size of the specimen. Also in larger males there is a tendency for the apex of the clypeus to be more strongly truncate. Other characters seem relatively stable.

The species is named for Dr. Walter Wittmer, both in acknowledgement of his help and in recognition of his many entomological contributions.

**Hemiphileurus scutellatus** Howden and Endrődi, n. sp. (Figs. 20–23)

**HOLOTYPE.** Male, length 13.9 mm, greatest width 6.5 mm. Dorsally very dark reddish brown to black, surface between punctures shining; most punctures with very minute setae. Ventrally setae conspicuous only on parts of head, prosternum and legs. Clypeus strongly acuminate, sides feebly bowed outwardly, a low carina on each side extending from acuminate apex to base of each clypeal-frontal tubercle (horn); surface between carinae with scattered irregular punctures. Clypeal-frontal tubercles (Fig. 22) well developed, lateral in position, apices blunt. Vertex behind deeply concave, the concavity at least as wide as distance between horns or four-fifths width of vertex; surface of concavity slightly granular, dull, with scattered punctures. Mandibles slender, lateral edges bowed outwardly. Antennae 10-segmented. Pronotum broader than long (ratio 6:4), broadest at middle, sides evenly arcuate to angles; marginal line complete; anterior angles sharply acute, hind angles rounded. Pronotal disc (Fig. 22) coarsely, moderately punctate, the punctures separated by from one to three diameters; midline indented in posterior two-thirds, heavily punctate. Scutellum smaller than usual, slightly wider than long, apex broadly U-shaped; surface irregularly punctate. Elytra conjointly slightly longer than wide (ratio 8.3:7.5); widest at middle, sides arcuate. Elytral disc (Fig. 20) with strial punctures in paired rows; i.e., third and fifth intervals slightly wider and more distinctly elevated; strial punctures large, annular, becoming small-



Figs. 15–23. 15–19, *Hispanioryctes wittmeri*: 15, dorsum; 16, head and pronotum, lateral view; 17, head; 18, male genitalia, lateral view; 19, male genitalia, apical view; 20–23, *Hemiphileurus scutellatus*: 20, dorsum; 21, male genitalia, lateral view; 22, head and pronotum; 23, male genitalia, apical view.

ler and deeper apically and laterally. Pygidium strongly convex, rugose at lateral angles, elsewhere moderately, closely, punctate, punctures fewer near apex. Prosternal process short, stout, triangular, base broad; process with weak transverse keel near middle. Fore tibia with three teeth on outer margin in apical half. Hind tibia with outer edge of apex arcuate, the posterior angle spinose. Genitalia (Figs. 21, 23) with parameres widened from middle to apex, inner lobes toothed at inner apical angle.

Female: Unknown.

Type material. Holotype, male, Dominican Republic, Bani, 65 m, 4 November 1973, J. and S. Klapperich (Basel). Paratypes, 2 males: 1 same data as holotype except collected 24 September 1972; 1, Dominican Republic, Valle Nuevo, 2400 m, 16 August 1972; J. and S. Klapperich (Endrödi, Howden).

Variation among the three males is slight, being most evident in size which ranges from 13.2 mm to 13.9 mm in length. There is a slight difference in the degree of development of the clypeal-frontal tubercles, but the general configuration is constant.

The species is one of the smaller members of the genus, and the nearly equal length to width ratio of the elytra, the small U-shaped scutellum and the genitalic characters will separate *scutellatus* from other known West Indian species.

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