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The New World species of *Ataenius* HAROLD, 1867. II. Revision of the West Indian *A. terminalis*-group (Coleoptera: Scarabaeidae: Eupariini)

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Abstract. The *terminalis*-group of the West Indian species of *Ataenius* HAROLD is revised. Seventeen species are recognised including two species described as new: *Ataenius elisaensis* sp.n. from Dominican Rep. and *A. jardinensis* sp. n. from Cuba. One species, *Pseudataenius walterhorni* (BALTHASAR, 1938) is transferred to *Ataenius*, a new synonym for *A. aciculus* HINTON, 1937 (= *A. apicecoloratus* BALTHASAR,1941, syn. n.) is proposed. All species are diagnosed, illustrated and keyed, available data on bionomy and distribution are given. Cladistic analysis is presented for the relationships among discussed taxa.

Key words: Coleoptera, Scarabaeidae, Eupariini, *Ataenius*, species-group, taxonomy, new species, phylogeny, New World.

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I. INTRODUCTION

This is the second part of review of the New World species of the genus *Ataenius* HAROLD and deals with the *terminalis*-group of species distributed mostly in the West Indies. The treatement by STEBNICKA (2001) is the first part in which a complete generic diagnosis, taxonomy and biogeography of *Ataenius* are discussed, therefore I refer the reader to that publication.

Taxonomic and distributional studies for the West Indian scarabs including Eupariini have been comprehensively covered by CHALUMEAU (1977, 1979, 1982, 1983), CHALUMEAU & GRUNER (1974) and CARTWRIGHT & CHALUMEAU (1978). Of the total number of 34 species of *Ataenius sensu stricto* recorded up to now from the Greater and Lesser Antilles, approximately 10 species have extensive Neotropical and extra-Neotropical distributions, the seven apparently indigenous West Indian species belong to various species-groups ranging from the Sonoran province to Argentina, and 17 endemic species are here assigned to the *terminalis*-group. The first West Indian species

of *Ataenius* to be discovered and described is *Scarabaeus elongatus* PALISOT de BEAUVOIS, 1805, a largest species of the *terminalis*-group captured at Santo Domingo and endemic to Hispaniola. The second species described later, namely *Ataenius terminalis* (CHEVROLAT, 1864) from Cuba, is one of the most typical species of the group. Distribution of seventeen species of the *terminalis*-group on the Greater and Lesser Antilles is presented in Table 1. One species occurs on the Lesser Antilles and along coastal areas of Surinam, Venezuela and Panama, one species is known from Cuba and from southeastern United States, however, these species of undoubtedly West Indian origin were periodically transported to the continent.

What is presently known of the distribution and phylogeny of the West Indian species of Euparini suggests an origin that includes the collective area of the Central America and northeastern South America. The origin and biogeographical relationships of the fauna of West Indies have been a source of interest for many years but the geological history of the area is rather speculative at present. As various biogeographers suggested, the Antilles may have served as a proto-isthmus connecting South and Central America, but its location at the site of the current isthmus is unlikely. The relationships of the islands themselves have a complex history, resulting, in part, from the sinistral movement of the islands, commencing with the opening of the Cayman through. This movement has stretched the island chain and brought different land areas into juxtaposition at various periods in the history of the islands. It has also, undoubtedly, been a factor in producing the close relationship between the faunal elements of the respective islands and their endemic elements. Some of the islands have a poor representation of species.

A c k n o w l e d g e m e n t s. I wish to express my cordial thanks to the following persons for sending me the materials from their institutions and private collections: D. AHRENS (Dresden), H. HOWDEN and F. GÉNIER, (Ottawa), H. and A. HOWDEN Collection (Ottawa), C. CLUDTS (Bruxelles), L. ZERCHE (Eberswalde), B. MERZ, G. CUCCODORO and I. LÖBL (Geneva), Y. CAMBEFORT (Paris), K. DESENDER (Stockholm), P. SKELLEY and R. TURNBOW (Gainesville), N. ADAMS and G. HOUSE (Washington DC), W. WARNER (Arizona), H. WENDT and J. SCHULZE (Berlin), W. SCHAWALLER, Stuttgart. I am especially indebted to H. HOWDEN (Ottawa) for comments on the series of manuscripts dealing with the Neotropical Aphodiinae.

II. MATERIALS AND METHODS

The present review is based on material from numerous collections mentioned below. Approximately 600 specimens have been selected from the New World material consisting of near 20 000 specimens identified at present, including all available type specimens. Great reliance is placed on the form of parameres of the male genitalia, because the body form and external sculpturing are often very similar between certain species. The form of the parameres and place of origin are necessary for a correct identification.

The following institutions and private collections kindly contributed material for this study. The abbreviations cited below are used through the text:

BCP	BALTHASAR's Collection, National Museum, Prague
BMNH	British Museum of Natural History, London
CMN	Canadian Museum of Nature, Ottawa
DEIE	Deutsches Entomologisches Institut, Eberswalde
FCHC	Fortune CHALUMEAU Collection, Lesser Antilles, Guadeloupe
FSCA	Florida State Collection of Arthropods, Gainesville
HAHC	Henry & Anne HOWDEN Collection, Ottawa

IREC	Institut Recherches Entomologiques de Caribe, Point-à-Pitre, Fr. Antilles
IRSNB	Institut Royal des Sciences naturelles de Belgique, Bruxelles
ISEA	Institute of Systematics and Evolution of Animals PAS, Krakow
JSC	Joachim SCHULZE Collection, Berlin
MHNG	Museum d'histoire naturelle, Geneva
MNHN	Museum National d'histoire naturelle, Paris
NMB	Naturhistorisches Museum, Basel
NRS	Naturhistoriska Rijksmuseet, Stockholm
PSC	Paul SKELLEY Collection, Gainesville
RTC	Robert TURNBOW Collection, Gainesville
SMNS	Staatliches Museum fur Naturkunde, Stuttgart
SMTD	Staatliches Museum für Tierkunde, Dresden
USNM	United States National Museum of Natural History, Washington DC
ZMHB	Zoologisches Museum für Naturkunde der Humboldt Universität, Berlin
ZSM	Zoologische Staatssammlung, Munich

The *Ataenius terminalis*-group

D i a g n o s t i c c h a r a c t e r s. Approximate length 3.0-5.7 mm; body (Figs 2, 3) parallel-sided or elongate oval, moderately convex, glabrous or partially setigerous, colour reddish brown to black, in some species elytra lighter than fore body or bicoloured. Head moderate in size, moderately elevated medially; clypeal edge rounded on each side of median emargination, rarely finely dentate; clypeal surface in some species or in some sexes with slight transverse wrinkles, middle of head usually minutely to finely punctate, vertex with scattered punctures or with regular band of close punctures. Pronotum transverse, sides and base margined, margin sometimes grooved, side margin fringed with thin pale hair; pronotal surface punctate. Scutellum triangular. Elytra parallel-sided or slightly arcuate, basal bead fine, humeral denticles fine or lacking; elytral striae more or less distinctly impressed and punctate, intervals convex or flat, discal intervals smooth or finely punctate, lateral intervals impunctate or distinctly punctate or rugose-swollen. Abdominal sternites finely fluted along sutures, in some species sternites 4-5 with coarse fluting; surface punctures at middle of sternites usually fine and scattered, rarely coarse and close, bearing short setae. Profemur shining, punctate; meso- and metafemora punctate or not, metafemur with fringe of pale setae along anterior margin, usually without posterior marginal line; meso- and metatibiae slender, metatibia slightly flattened dorsoventrally, apex with 8-9 setae and thin spurs, rarely with very fine accessory spine; tarsi slender, basal tarsomere of metatarsus usually longer than upper tibial spur and shorter than following tarsomeres together.

External sexual differences usually advanced, mostly apparent in the shape of terminal spur of protibia, in the sculpture of the head and pronotum, in the length of abdominal sternites and the metatarsal segments. Male genitalia (Figs 4-5) moderately sclerotized, parameres usually as long as phallobase or longer, apices variously shaped; penis relatively fine, internal sac with very fine spicules.

Affinity. *Ataenius terminalis*-group is very close to *Ataenius strigatus*-group of species (revision in preparation) having a wide distribution in southern United States, Mesoamerica and northern part of South America, with some species occurring also in the West Indies.

R e m a r k s. Most of the species represented by a series in this paper were collected in flight interception traps (FITs).

Table I

Known distribution of *Ataenius terminalis*-group

Species	USA	Cuba	Jamaica	Hispaniola	Puerto Rico--La Parguera	Lesser Antilles	Barbados	South America
A. walterhorni BALTH.	■	■						
A. gruneri CHAL.		■						
A. jardinensis sp.n.		■						
A. terminalis (CHEVR.)		■	■					
A. bicolor PETR.		■	■					
A. jamaicensis CHAP.			■					
A. raccurti CHAL.			■	■				
A. aciculus HINT.				■				
A. elisaensis sp.n.				■				
A. elongatus (PAL.)				■				
A. versicolor SCHM.				■				
A. klapperichi HOWD.				■				
A. hispaniolae CHAL.				■				
A. michelii CHAL.					■			
A. howdeni CHAL.						■		
A. insulae CHAL						■		
A. luteomargo CHAP.					■	■	■	■

Cladistic analysis

Seventeen species of *Ataenius terminalis*-group were included as ingroup taxa. Characters were polarized using outgroup formed by two continental species of *Ataenius* belonging to the different groups. The 21 binary characters are defined and coded in Table II. Autapomorphies were excluded from the matrix.

Table II

Character matrix. Scores for character states: plesiomorphic=0; apomorphic=1; unknown state=?

1.Clypeal margin – rounded (0), dentate (1); **2**. Head, vertical punctures – widely scattered (0), close in band (1); **3**. Pronotal marginal groove – deep (0), shallow (1); **4**. Pronotum, puncturation types – two types (0), one type (1); **5**. Pronotum, puncturation types on anterior disc – one type (0), two types (1); **6**. Elytra shape – parallel-sided (0), arcuate (1); **7.** Elytra colour – unicoloured (0), bicoloured (1); **8.** Elytral setae – absent (0), present (1); **9**. Elytra, strial punctures – distinct (0), indistinct (1); **10**. Elytra, discal intervals punctures – absent (0), present (1); **11.** Elytra lateral intervals – smooth (0), rugose-swollen (1); **12.** Metasternal punctures – fine (0), coarse (1); **13**. Meso-metasternal carina – long (0), short (1); **14.** Abdominal sternites 4-5 fluting – fine (0), coarse (1); **15.** Abdomen, punctures at middle of sternites – fine (0), coarse (1); **16.** Abdominal setae – absent (0), present (1); **17**. Metafemur fringe of setae – absent (0), present (1); **18**. Metafemur posterior line – present (0), absent (1); **19**.

Metatibia accessory spine – present (0), absent (1); **20**. Male, terminal spur of protibia – straight (0), curved (1), unknown state (?); **21.** Male, metasternal setae – absent (0), present (1), unknown state (?).

Taxa Characters	.....	.....	11111	111122
	12345	67890	12345	678901
Outgroup	00000	00000	00000	000000
Ataenius aciculus	10000	11100	10110	111111
Ataenius bicolor	00101	01010	00100	011011
Ataenius elisaensis sp.n.	11101	01001	00100	011011
Ataenius elongatus	01110	00010	00100	011010
Ataenius gruneri	01101	00101	00100	111011
Ataenius hispaniolae	00101	01011	00100	011010
Ataenius howdeni	01100	01001	00100	011010
Ataenius insulae	01000	10101	10111	1110??
Ataenius jamaicensis	00101	11100	10110	111010
Ataenius jardinensis sp.n.	11001	10101	11111	1000??
Ataenius klapperichi	01010	00111	11111	1001??
Ataenius luteomargo	00101	01010	00100	011010
Ataenius michelii	01000	10000	00100	011010
Ataenius raccurti	01001	10000	00100	011010
Ataenius terminalis	00001	01010	00100	011010
Ataenius versicolor	01001	01101	10111	111110
Ataenius walterhorni	00000	00010	00100	011011

The data matrix was operated in WINCLADA (NIXON 1999), the heuristic tree search and BREMER branch support values (BREMER 1994) were performed and calculated in NONA (GOLOBOFF 1993). The 17 equally parsimonious trees were generated and examined in WINCLADA under fast optimization (ACCTRAN). The most parsimonious cladogram displaying the character state changes with statistics L = 49, CI = 42, RI = 66 is presented in Fig. 1. BREMER values indicate support by synapomorphies for the monophyly of the *Ataenius terminalis*-group, as well as that of (*A. michelii* + *A. raccurti*), (*A. bicolor* + *A. luteomargo*), (*A. aciculus* + *A. jamaicensis*) and (*A. jardinensis* + *A. klapperichi).*

The monophyly of the terminalis-group within *Ataenius* is indicated by poorly developed meso-metasternal carina (char. 13), the anterior margin of metafemur fringed with setae (char. 17), the metafemur without posterior marginal line (char. 18), and the terminal spur of protibia in male sinuate or hooked (char. 20). *A. michelii* + *A. raccurti* are the sister taxa of *walterhorni* and *elongatus* sharing dark colour and a mosaic of character states hypothesized as convergent transformations. Character 7 is the synapomorphy for *A. terminalis* and the remaining species because of the share of bicoloured, glabrous elytra with subsequent change to dark, setigerous elytra in *jardinensis* + *klapperichi*. The three species, *terminalis* + *bicolor* + *luteomargo* are very similar externally and share most of the character states. Character 10 (disc of elytra with distinct punctures) supports the remaining nodes with reversal to the almost impunctate discal intervals of elytra in *aciculus* + *jamaicensis*. Characters 8 and 16 are the synapomorphies to the remaining species of the clade characterized by presence of the elytral and abdominal setae. The distinctive sculpture of the lateral elytral intervals (Char. 11) and the abdominal sternites 4-5 with coarse fluting (char. 14) characterize the clade of six species among which the character 15 (coarse punctures on abdominal sternites) is reversed in *aciculus* + *jamaicensis*. The sister relationship of the latter species has weak support and, although these species share a number of character states, they differ externally. The last two nodes with sister species *jardinensis* + *klapperichi* are supported by a single synapomorphy (Char. 12 – metasternum coarsely punctate), but they share most of the character states with the remaining species of the clade.

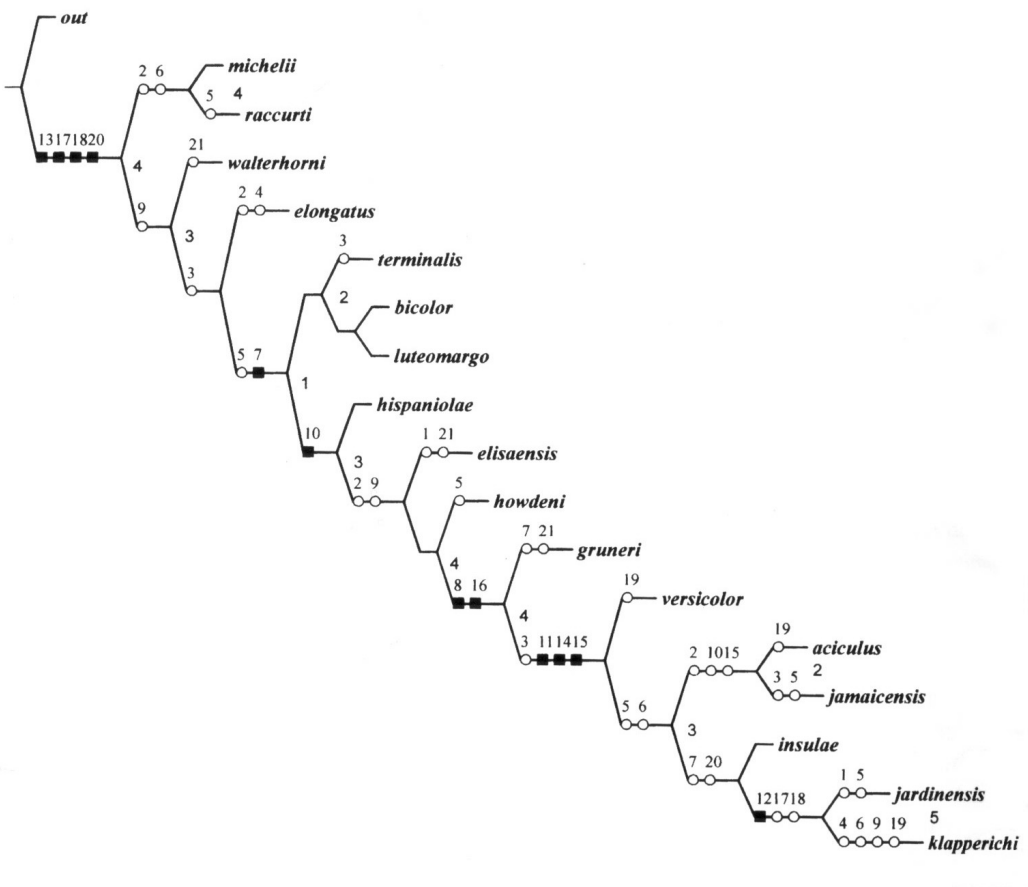


Fig. 1. Cladogram depicting hypothetical relationships among seventeen species of *Ataenius terminalis*-group. Numbering of characters corresponds to that in the character matrix (Table II). BREMER values are given between adequate nodes.

Key to the species of *Ataenius terminalis*-group

1 Elytra brown to black, apex and lateral intervals yellow or light brown, rarely elytra brown with darker markings 2

– Elytra brown to black without lighter or darker markings 10

2(1) Apex of elytra and abdominal sternites glabrous 3

– Apex of elytra and abdominal sternites with short setae 8

3(2) Elytra usually bicoloured, rarely lighter markings vanish; pronotal lateral margin widely grooved, punctures on sides mixed fine to moderate and coarse; Cuba, Jamaica . . . *A. terminalis* (CHEVR.)

– Elytra always bicoloured; pronotal lateral margin finely grooved or not grooved, pronotal sides variously punctured 4

4(3) Clypeal edge denticulate on each side of median emargination; Hispaniola . . . *A. elisaensis* sp. n.
– Clypeal edge rounded or obtuse on each side of median emargination. 5
5(4) Pronotal punctures generally minute to fine, evenly distributed; Cuba, Jamaica. . . . *A. bicolor* PETR.
– Pronotal punctures fine and moderate to coarse, the latter unevenly distributed 6
6(5) Pronotal anterior disc with fine punctures, posterior disc and lateral area with coarse, close punctures; Lesser Antilles (Antigua) . . . . . *A. howdeni* CHAL.
– Pronotal anterior disc with widely scattered, fine and moderate to coarse punctures, the latter closer laterally. 7
7(6) Length 3.0- 3.4 mm; elytra relatively short; metatarsus shorter than metatibia; Hispaniola. . . . . *A. hispaniolae* CHAL.
– Length 4.0- 4.6 mm; elytra elongate; metatarsus as long as metatibia or longer; Lesser Antilles, South America . . . . . *A. luteomargo* CHAP.
8(2) Elytra brown to orange, intervals 2-5 and 7th with dark longitudinal spots; Jamaica . . . . . *A. jamaicensis* CHAP.
– Elytra dark brown to piceous, apex and lateral intervals yellow or reddish brown, intervals 7-9 roughly punctate. 9
9(8) Pronotal anterior disc with fine sparse punctures, posterior disc and sides with coarse dens epunctures; Hispaniola. . . . . *A. aciculus* HINT.
– Pronotal anterior disc with mixture of fine, dense punctures and coarse scattered punctures; Hispaniola. . . . . *A. versicolor* SCHM.
10(1) Elytra glabrous. 11
– Elytra in part setaceous 14
11(10) Body elongate 12
– Body suboval 13
12(10) Length 5.1-5.7 mm, body robust; pronotum everywhere very finely, evenly punctate; basal tarsomere of metatarsus shorter than upper tibial spur; Hispaniola . . . . . *A. elongatus* (PAL.)
– Length 3.8-4.8 mm, body slender; pronotum with minute to fine and moderate, unevenly spaced punctures; basal tarsomere of metatarsus longer than upper tibial spur; Cuba, USA . . . . . *A. walterhorni* BALTH.
13(11) Body subopaque; lateral intervals of elytra subcarinate; basal tarsomere of metatarsus subequal to following three tarsomeres together; Hispaniola, Jamaica . . . . . *A. raccurti* CHAL.
– Body shining; lateral intervals of elytra slightly convex; basal tarsomere of metatarsus subequal to remaining four tarsomeres combined; Puerto Rico . . . . . *A. michelii* CHAL.
14(10) Elytra in part with extremely short, decumbent setae 15
– Elytra in part with moderate in length, upright setae 16
15(14) Body light brown; elytra shining, lateral intervals with fine scattered punctures; Cuba . . . . . *A. gruneri* CHAL.
– Body dark brown to piceous, elytra subopaque, lateral intervals with rows of coarse punctures; Lesser Antilles (Guadeloupe) . . . . . *A. insulae* CHAL.
16(14) Clypeal edge finely denticulate on each side of median emargination; lateral intervals of elytra slightly swollen with irregular rows of coarse punctures; Cuba . . . . . *A. jardinensis* sp. n.
– Clypeal margin rounded on each side of median emargination; all intervals of elytra slightly swollen with regular rows of coarse punctures; Hispaniola . . . . . *A. klapperichi* HOWD.

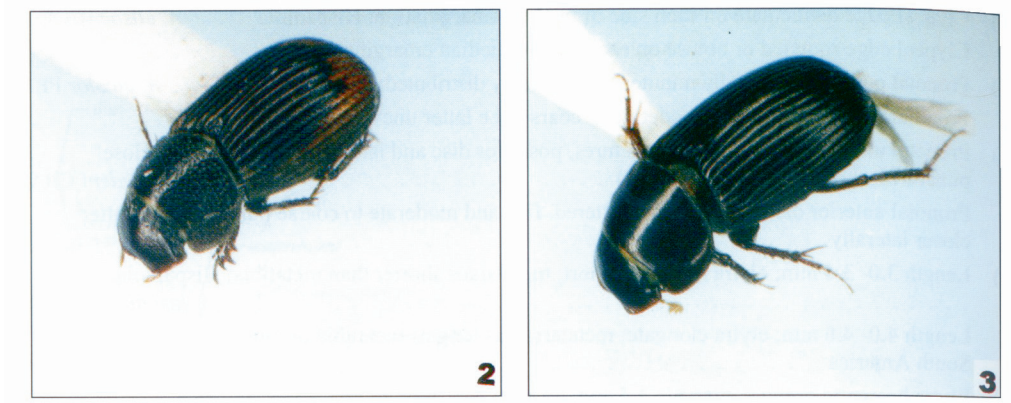
Ataenius walterhorni BALTHASAR

(Figs 4-5)

Ataenius walterhorni BALTHASAR, 1938: 55-56.- CARTWRIGHT 1968: 27; WOODRUFF 1973: 133.

Ataenius walterhoni (sic!): CHALUMEAU 1981: 175.

Pseudataenius walterhorni: CARTWRIGHt 1974: 12-13.- DELLACASA 1988: 283 (catalogue).



Figs 2-3. Habitus: 2 – *Ataenius versicolor* SCHM., 3 – *A. elongatus* (PAL.).

M a t e r i a l e x a m i n e d. Holotype male, labelled „Cuba Havana 7.VII.1972, W.H. HOFFMAN", „*Ataenius walterhorni*, Dr. V. BALTHASAR det.", in DEIE. „Homotypes" male and female designated by CARTWRIGHT – Cuba, Baragua, Camaguey; Cayamas; in USNM.

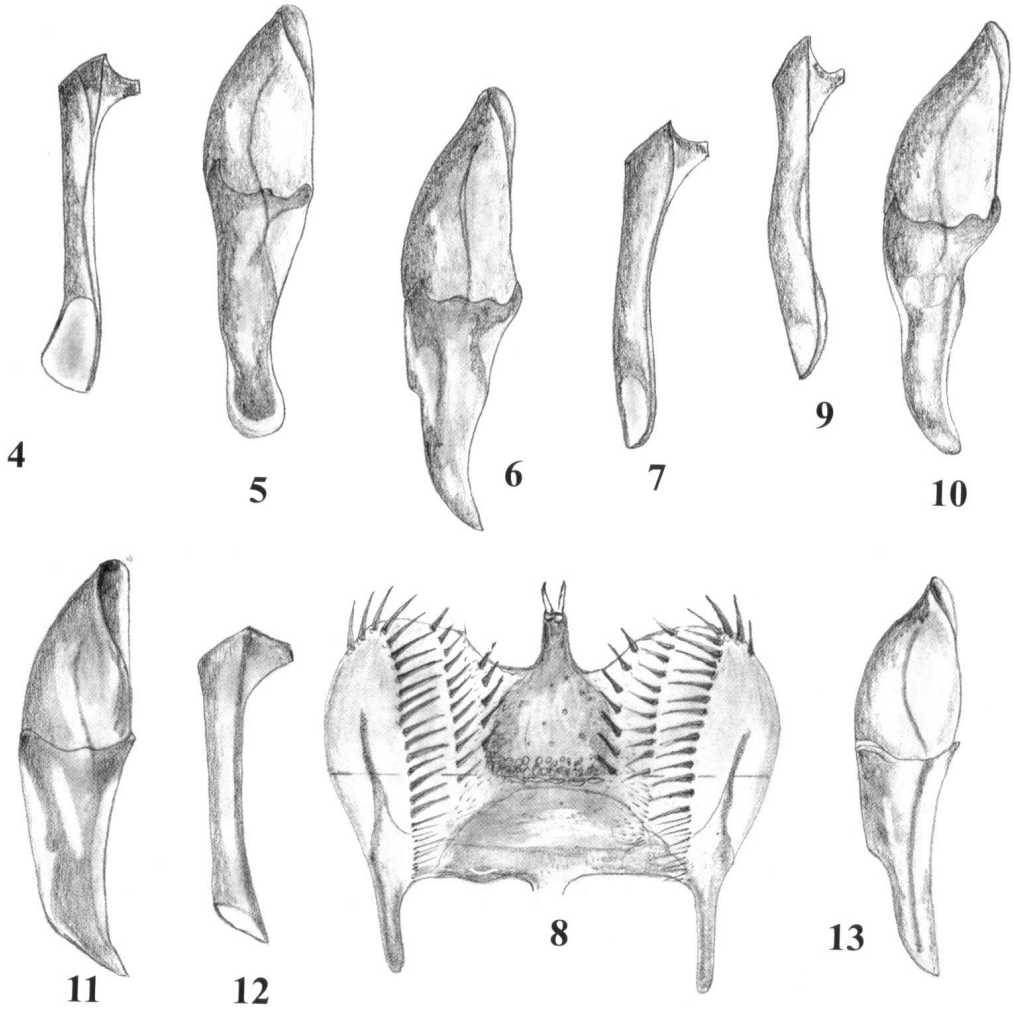
Other specimens (30) **Cuba** – vicinity of Havana; Oho (ZMHB); Middle Part, Santa Clara, X.1996, leg. OTT & POMMERANZ (ISEA, SMTD); Cienfuegos, Rio Caburni 5 km WNW Topes de Collantes 600 m, 10-11.XII.1994, leg. O. FLINT (ISEA, USNM); Cienfuegos, 1917, leg.W. M. MANN (USNM).

D i a g n o s t i c c h a r a c t e r s. Length 3.8-4.8 mm. Elongate-oblong, moderately shining, colour brown, dark castaneous or brownish black. Clypeal margin broadly rounded on each side of shallow, wide median emargination, sides weakly rounded to right-angled, prominent gena. Pronotum weakly convex, lateral and basal margin distinctly grooved; surface with minute alutaceous sculpture and minute to fine punctures throughout, laterally punctures become slightly larger, separated by their diameter or less. Elytra moderately convex, humeral denticle fine, elytral striae fine, punctures indistinct, very shallow or invisible; intervals evenly convex, surface without punctures. Metasternum shining, midline deep, ending anteriorly in deep pore; abdominal sternites finely fluted along sutures, surface finely alutaceous with scattered, very fine punctures from side to side and cluster of moderate punctures at extreme sides. Legs relatively long; meso- and metafemora smooth and shining with few vague, scattered, very fine punctures; apex of metatibia fringed with 5-6 setae; metatarsus longer than tibia, slender, basal tarsomere longer than upper tibial spur and subequal to following three tarsomeres combined.

Male. Usually lighter in colour than female, clypeus less deeply emarginate, surface finely punctate without trace of transverse wrinkles; disc of metasternum with fine punctures bearing short pale setae; terminal spur of protibia hooked inwardly at the tip; tarsi longer than in female; genitalia as in Figs 4-5.

Female. Head and pronotum more convex than in male, gena less prominent, clypeal surface with distinct trasverse wrinkles, vertex of head with closer punctures; penultimate abdominal sternite longer than in male, tarsi relatively shorter.

R e m a r k s. The species is here transferred from *Pseudataenius* to *Ataenius* as originally placed, because it resembles, and agrees in many characters with the remaining species of the *terminalis*-group, including features of the male genitalia. As indicated in the description, the sexes are notably dimorphic in *Ataenius walterhorni.* The species is most closely related to *A. terminalis* (see Remarks under that species), occurs in Cuba and USA, recorded by WOODRUFF (1973) and CARTWRIGHT (1974) from Florida, Louisiana and Pensylvannia.



Figs 4-13. Male genitalia and epipharynx: 4, 5 – *Ataenius walterhorni* BALTH.: 4 – left paramera in dorsal view, 5 – aedeagus in lateral view; 6-8 – *A. terminalis* (CHEVR.): 6 – aedeagus in lateral view, 7 – left paramera in dorsal view, 8 – epipharynx; 9, 10 – *A. bicolor* PETR.: 9 – left paramera in dorsal view, 10 – aedeagus in lateral view; 11,12 – *A. hispaniolae* CHAL. : 11 – aedeagus in lateral view, 12 – left paramera in dorsal view; 13 – *A. elisaensis* sp. n.: aedeagus in lateral view.

Ataenius terminalis (CHEVROLAT)

(Figs 6-8)

Auperia terminalis CHEVROLAT, 1864: 414.

Auperia ciliata CHEVROLAT, 1864: 414 (non *A. terminalis* CHEVROLAT, 1864)

Ataenius terminalis: ARROW 1903: 512 (nec CHEVROLAT, 1864); SCHMIDT 1922: 438; CHAPIN 1940: 38; CHALUMEAU 1981: 175; DELLACASA 1988: 282 (catalogue).

M a t e r i a l e x a m i n e d. Lectotype (Cuba – Havana) designated by CARTWRIGHT (1973) in SMTD.

Other specimens (95). **Cuba** – Havana (SMNS, SMTD); Havana, 15-21.VII.1970, leg. PATAKI (ISEA), 7.VII, W.H. HOFFMAN (SMTD); Prov. Oriente, Holguin, 9-11.XI.1976, leg. Z. MESZAROS (ISEA); Middle Part, Santa Clara, XI.1996, leg. OTT & POMMERANZ; Eastern Part, Viñalestal, 24-25.X.1996, leg. OTT & POMMERANZ (ISEA, SMTD); Sto Domingo, Villa Clara, 20.III.1993, T. GLADIL (ZMHB); Prov. Santiago, Jardin Botanico, 4-17.XII.1995, L. MASNER (CMN). **Jamaica** - Try. Good Hope, 11.VIII.1966, leg. A. HOWDEN; St. And. Mahogany Vale, 20.VII. 1966, leg. A. HOWDEN (HAHC-CMN).

D i a g n o s t i c c h a r a c t e r s. Length 3.8 – 4.8 mm. Body moderately shining, usually dark brown to black, in most specimens lateral intervals and apex of elytra yellowish brown. Clypeal margin broadly rounded on each side of wide median emargination, sides weakly rounded to obtuse, slightly prominent gena; clypeal surface in both sexes very finely transversely wrinkled, vertical area of head with fine scattered punctures. Pronotum moderately convex, lateral and basal margin distinctly grooved; surface sometimes with minute alutaceous sculpture, punctures mixed minute and fine on disc, laterally become larger and closer, separated by their diameter or less. Elytra moderately convex, humeral denticle fine, elytral striae fine, punctures indistinct, very shallow or invisible; intervals evenly convex, surface usually impunctate. Metasternum shining, midline deep; abdominal sternites finely fluted along sutures, surface with scattered, very fine punctures from side to side and cluster of moderate punctures at extreme sides. Legs moderate in length; meso- and metafemora with few vague, scattered, very fine punctures; metatarsus as long as tibia, basal tarsomere shorter than upper tibial spur and longer than following three tarsomeres combined. Epipharynx as in Fig. 8.

Male. Pronotum with punctures finer and less close than in female; genitalia as in Figs 6-7.

Female. Colour usually darker than in male.

R e m a r k s. The species varies from bicoloured to entirely black with a number of gradation between these two extremes. *A. terminalis* is most closely related to *A. walterhorni*, sometimes the entirely black females of *terminalis* are very similar to those of *walterhorni* but usually differ by larger punctures of the pronotum. References to this species in the literature from other localities than Cuba and Jamaica are doubtful. It is likely, that the distribution of *terminalis* in Cuba given by CHALUMEAU (1981) refers also to *bicolor* (see Remarks under the latter species).

Ataenius bicolor PETROVITZ

(Figs 9-10)

Ataenius bicolor PETROVITZ, 1963: 642-643.- DELLACASA 1988: 272 (catalogue).

M a t e r i a l e x a m i n e d. Holotype labelled 'Jamaica I.1954 leg. G.& H. FREY', '*Ataenius bicolor* PETROVITZ', in MHNG. Paratypes (2) same data as holotype, in MHNG.

Other specimens (79). **Cuba** – (no additional data) (ZMHB); vicinity of Havana, 27.V.1970, leg. PATAKI (JSC); Eastern Part, Viñalestal, 24-25.X.1996, leg. OTT & POMMERANZ; Middle Part, Santa Clara, XI.1996, leg. OTT & POMMERANZ (SMTD); Prov. Pinar del Rio, Joabel Rubio, 23-28.XI.1973, leg. Z. MESZAROS (ISEA), Luis Lazo, VII.1962, leg. P. ALAYO (ISEA); Prov. Oriente, Puerto Boniato nr Santiago de Cuba, 10.II.1967, leg. BIELAWSKI & RIEDEL (ISEA). **Jamaica** – Ocho Rios, 28.IV.1981, G. BENICK (ZMHB); Westmoreland, Negril, 3.VIII.1984, J.& S. PECK (CMN); Trel. Parish Windsor, 14.XII.1975, leg. F. HEVEL (ISEA); Try. Good Hope, 17.VIII.1966, leg. A. HOWDEN; Try. Duncans, 15.VII.1966, leg. A. HOWDEN (CMN).

D i a g n o s t i c c h a r a c t e r s. Length 3.0 – 4.5 mm. Body shining, yellowish brown, dark brown or black, lateral intervals and apex of elytra reddish or yellowish brown. Clypeal margin broadly rounded each side of shallow median emargination, sides weakly rounded to obtuse, slightly prominent gena; vertical area of head with fine scattered punctures. Pronotum moderately

convex, lateral and basal margin fine, weakly grooved, surface punctures minute and fine, on disc evenly distributed, on sides slightly larger, separated by their diameter or less. Elytra moderately convex, humeral denticle fine, elytral striae fine, punctures indistinct, very shallow or invisible; intervals slightly convex or flat, surface usually impunctate. Metasternum shining, midline deep; abdominal sternites finely fluted along sutures, surface at middle with scattered, very fine punctures or impunctate, a cluster of fine punctures at extreme sides more or less distinct. Legs moderate in length; meso- and metafemora with few vague, scattered, very fine punctures; basal tarsomere of metatarsus subequal to upper tibial spur and longer than following three tarsomeres combined.

Male. Clypeal surface without transverse wrinkles, usually finely punctate; pronotal punctures finer than in female, on disc closer; metatarsus longer; terminal spur of protibia curved ventrally; genitalia as in Figs 9-10.

Female. Clypeal wrinkles more or less distinct; pronotal punctures on disc slightly larger and less close than in male.

R e m a r k s. *Ataenius bicolor* is hitherto known only from its original description. It is intermediate in form between *terminalis* and *luteomargo,* differs from both these species by its more slender body with narrower elytra and the pronotal disc with minute punctures prevailing.

Ataenius hispaniolae CHALUMEAU

(Figs 11-12)

Ataenius hispaniolae CHALUMEAU, 1982: 325-327, figs 3, 6; DELLACASA 1988: 352 (catalogue).

Typa data. Holotype male: Dominican Rep., San Pedro de Mocoris, Guayacanes; (not seen), in IREC.

M a t e r i a l e x a m i n e d. Specimens (12) labelled by CHALUMEAU as *A. versicolor*: **Dominican Rep.** – Boca Chica, 10 m, 15.II, 11.IX, 23.IX, 21.X.1971, J. & S. KLAPPERICH (CMN-HAHC, ISEA).); Sto Domingo, Villa Clara, 10 mi S Boca Chica, 9.II.1971, leg. J. KLAPPERICH (CMN).

D i a g n o s t i c c h a r a c t e r s. Length 3.0 – 3.4 mm. Colour dark brown, apex of elytra yellowish, in some specimens lateral two elytral intervals light brown. Clypeal margin broadly rounded each side of shallow median emargination, sides weakly rounded to obtuse gena; surface below convexity in both sexes with weak transverse wrinkles, median area and vertex with fine but deep punctures separated by about one diameter. Pronotum convex, lateral and basal margin fine, not grooved, surface with fine, evenly distributed punctures separated by one diameter and larger punctures widely scattered on disc, closer along base, intense on sides and here separated by less than their diameter. Elytra relatively short, slightly arcuate, surface microreticulate, humeral denticle fine; elytral striae impressed, strial punctures indistinct; intervals strongly convex especially on sides, surface punctures invisible. Metasternum shining, midline deep; abdominal sternites finely fluted along sutures, surface at middle with scattered, very fine punctures and a cluster of moderate punctures at extreme sides. Legs moderate in length; meso- and metafemora with few fine, scattered punctures and few larger setigerous punctures at knee; metatarsus shorter than tibia, basal tarsomere shorter than upper tibial spur and shorter than following three tarsomeres combined. In male, terminal spur of protibia curved inwardly; genitalia as in Figs 11-12.

R e m a r k s. *Ataenius hispaniolae* is very similar to *A. elisaensis* sp.n., *luteomargo* and *howdeni,* but can be easily distinguished by its smaller size, suboval elytra and shorter tarsi.

Ataenius howdeni CHALUMEAU

Ataenius howdeni CHALUMEAU, 1978: 51-52, figs 4, 9.- DELLACASA 1988: 330 (catalogue).

Type data. Holotype male, labelled ‘Antigua, Big Buers, 27.V.1978’, (not seen), in FCHC.

M a t e r i a l e x a m i n e d. Paratype female, same data as holotype, in CMN.

D i a g n o s t i c c h a r a c t e r s. Length 4.0 mm. Colour dark brown, elytra lighter than fore body with lateral and apical area yellowish; clypeal margin broadly rounded each side of shallow median emargination, sides weakly rounded to obtuse gena; vertical area of head with band of fine punctures. Pronotum moderately convex, lateral and basal margin only slightly grooved, anterior disc with minute punctures separated by 2-3 diameters, posterior disc and sides with large punctures separated by one diameter or less. Elytra microreticulate, moderately convex, humeral denticle fine, elytral striae impressed, strial punctures distinct; intervals slightly convex, fine punctures scattered. Metasternum shining, midline deep; abdominal sternites finely fluted along sutures, surface at middle with scattered, very fine punctures and a cluster of moderate punctures at extreme sides. Legs moderate in length; meso- and metafemora with few vague, scattered punctures; basal tarsomere of metatarsus subequal to upper tibial spur and longer than following three tarsomeres combined.

R e m a r k s. *Ataenius howdeni* is very similar to *A. elisaensis* sp.n., *luteomargo* and *hispaniolae;* it differs from all these species by having the pronotal anterior disc uniformly minutely punctate without larger punctures intermixed. The male genitalia appear to be most similar to those of *luteomargo* (see CHALUMEAU 1978, fig. 9). The species is known only from the type series taken in Antigua Island.

Ataenius elisaensis sp. n.

(Fig. 13)

Holotype male, Dominican Rep., Monte Cristi, 8.2 km N Villa Elisa, 1.VI.1994, R. TURNBOW, in FSCA. Paratype female, same data as holotype, in ISEA.

D e s c r i p t i o n. Length 4.0 mm. Elongate, parallel-sided, shining, fore body piceous, elytra dark brown with lateral and apical area reddish yellow. Head trapezoid, clypeal margin with triangular denticles on each side of moderate median emargination, sides almost straight to right-angled, prominent gena; clypeal surface in both sexes finely transversely wrinkled, vertical area of head with band of fine punctures separated by one diameter. Pronotum moderately convex, lateral and basal margin only slightly grooved; surface with fine, evenly distributed punctures and irregularly spaced on disc, moderately coarse punctures separated by 2-3 diameters, closer laterally. Elytra moderately convex, humerus very finely dentate, elytral striae impressed, strial punctures distinctly crenating inner margins of intervals; intervals slightly convex, surface with fine scattered punctures. Metasternum shining, midline deep; abdominal sternites finely fluted along sutures, surface at middle with scattered, fine punctures and a cluster of coarse punctures at extreme sides. Legs moderate in length; meso- and metafemora with few vague, scattered punctures; basal tarsomere of metatarsus equal in length to upper tibial spur and longer than following three tarsomeres combined.

Male. Metasternal disc with scarce erect setae; terminal spur of protibia curved inwardly; genitalia as in Fig. 13.

Female. Pronotal punctures slightly larger and deeper than in male.

R e m a r k s. *Ataenius elisaensis* is very similar to *luteomargo*, *hispaniolae* and *howdeni*, but may be easily recognized by its denticulate clypeus. The male genitalia of these species are weakly differentiated

Ataenius luteomargo CHAPIN

(Figs 14-15)

Ataenius luteomargo CHAPIN, 1940: 36.- WOODRUFF 1973: 173 (nota); CHALUMEAU & GRUNER 1974: 811-812, fig. 33; CARTWRIGHT & CHALUMEAU 1978: 12; CHALUMEAU 1983: 84, fig. 48; DELLACASA 1988: 277 (catalogue).

Ataenius terminalis: ARROW 1903: 512 (non CHEVROLAT, 1864)

Ataenius versicolor: HINTON 1937: 183 (non SCHMIDT, 1916).

M a t e r i a l e x a m i n e d. Holotype (sex undetermined) labelled 'Dominica, San Domingo Roseau 1933 L.E.CHADWICK, '*Ataenius luteomargo* det. CHAPIN', No 53328 USNM.

Other specimens (53). **Barbados** – 10 km NE Holetown Turner Hall Woods; Coles Cave 1 km SSE, 200 m, 22-26.II.1979, S.& J. PECK (CMN, ISEA); **Guadeloupe** – Anse a l'Eau, 19.VIII.1972, F. CHALUMEAU (ISEA); Guadeloupe (no additional data) (SMTD). **Martinica** – Martinous Diamant (ISEA). **Puerto Rico** – Mona Island; La Parguera, 24.VII.1960, 28.VII.1969, H.& A. HOWDEN (CMN). **Santa Lucia** – Sanfriere, Pt Rachette, 11.VII.1980, leg. MAHUNKA (ISEA); vicinity of Castries, 21.XII.1975, F. CHALUMEAU (CMN). **Panama** – Isthmus Matachin, coll. O. THIEME (ZMHB). **Surinam**, coll. C. FELSCHE Kauf 20, 1918 (SMTD). **Venezuela** – Caracas, V-VI.1877, coll. O. THIEME (ZMHB).

D i a g n o s t i c c h a r a c t e r s. Length 4.0 – 4.6 mm. Colour dark brown to piceous, outer intervals and apex of elytra yellowish to reddish yellow. Clypeal margin obtusely rounded to subangulate on each side of shallow median emargination, side almost straight to right-angled, prominent gena; clypeal surface variably sculptured, usually in both sexes with more or less distinct transverse wrinkles and more or less close punctures from middle of head to vertex. Pronotum moderately convex, lateral and basal margin only slightly grooved; surface with fine and moderate, evenly distributed punctures variable in density, and sparse coarse punctures laterally and across basal area. Elytra slightly alutaceous, moderately convex, humeri finely dentate; elytral striae impressed, strial punctures indistinct; intervals slightly convex, surface lacking punctures or with fine scattered punctures. Metasternum shining, midline deep, disc minutely punctulate; abdominal sternites finely fluted along sutures, surface at middle with scattered, fine punctures and a cluster of moderate punctures at extreme sides. Legs moderate in length; meso- and metafemora almost impunctate.

Male. Clypeal emargination deeper than in female, punctures of head finer, punctures of pronotum less close; terminal spur of protibia hooked inwardly; metatarsus longer than in female, basal tarsomere equal in length to upper tibial spur and subequal to following three tarsomeres combined; genitalia as in Figs 14-15.

Female. Metatarsus shorter than in male, basal tarsomere longer than following three tarsomeres combined.

R e m a r k s. The species is very variable, most similar to *A. bicolor* from which it differs by having a relatively broader elytra and coarser puncturation of the pronotum. It is widely distributed in the Lesser Antilles where it appears to be the most common species of *Ataenius*. Recorded by CARTWRIGHT & CHALUMEAU (1978) from Puerto Rico, St Kitts, Antigua, Monserrat, Guadeloupe, Dominica, St Lucia, Barbados, Grenada, Marie-Galante, Desirade, Les Saintes. Records from Jamaica refer to *A. bicolor*.

Ataenius aciculus HINTON

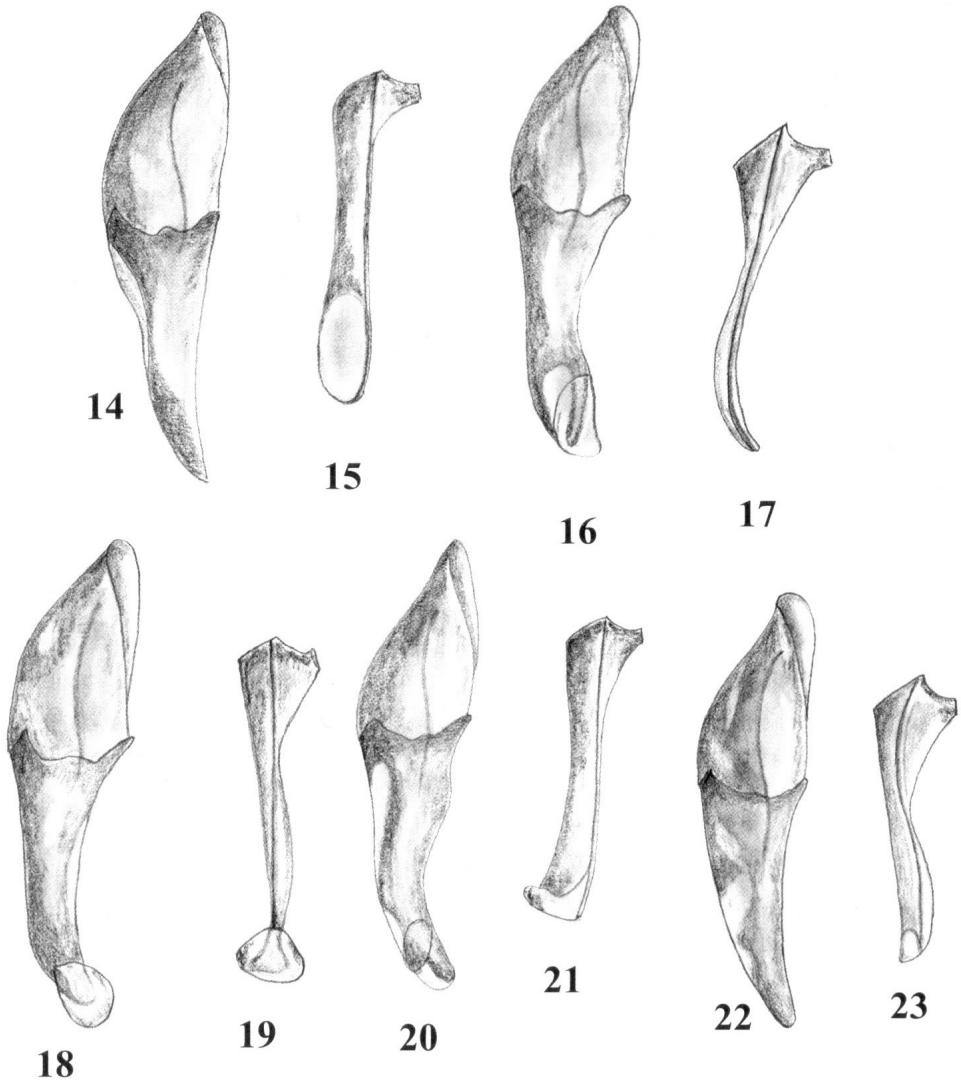
(Figs 16-17)

Ataenius aciculus HINTON, 1937: 187-189, figs 20-24. - CHAPIN 1940: 34-35; DELLACASA 1988: 82 (catalogue).

Ataenius apicecoloratus BALTHASAR, 1941: 168-169.- DELLACASA 1988: 272 (catalogue). **New synonymy.**

M a t e r i a l e x a m i n e d. *Ataenius aciculus*: Holotype male, labelled 'Diquini, Haiti J. B. TERRES', '*Ataenius acicula* HINTON Type', 'No 53327 USNM'. *A. apicecoloratus*: Holotype (sex not determined) labelled "Haiti", "Ataenius apicecoloratus m. Dr V. BALTHASAR det." in ZSM.

Invalid neotype designated in litteris by CHALUMEAU, labelled: „Haiti Fond Verrettes, 28.V.1950, M.W. SANDERSON", in USNM.



Figs 14-23. Male genitalia, 14,15 – *Ataenius luteomargo* CHAP.: 14 – aedeagus in lateral view, 15 – left paramera in dorsal view; 16,17 – *A. aciculus* HINT.: 16 – aedeagus in lateral view, 17 – left paramera in dorsal view; 18, 19- *A. versicolor* SCHM.: 18 – aedeagus in lateral view, 19 – left paramera in dorsal view; 20, 21 – *A. gruneri* CHAL.: 20 - aedeagus in lateral view; 21 – left paramera in dorsal view; 22, 23 – *A. jamaicensis* CHAP.: 22 – aedeagus in lateral view, 23 – left paramera in dorsal view.

Other specimens (44). **Dominican Rep**. – Prov. Monte Cristi, 9.2 km N Villa Elisa; 4.8 km Villa Elisa, 1.VI.1994, M.C. THOMAS (ISEA, PSC), 8.2 km N Villa Elisa, 1.VI.1994, R. TURNBOW; Peravia, 2 km SE Rio Ocoa, 16.V.1992, R. TURNBOW; Barahona, 3.4 km S Barahona, 16.V.1992, R. TURNBOW (FSCA, ISEA, RTC).

D i a g n o s t i c c h a r a c t e r s. Length 3.7 – 4.0 mm. Body oblong oval, colour light piceous, apical third of elytra reddish to orange yellow. Clypeal margin obtusely rounded to subangulate on each side of moderate median emargination, side almost straight to small, obtuse

gena; clypeal surface in both sexes with slight transverse wrinkles, middle of head and vertex almost impunctate or with few very fine punctures. Pronotum convex, lateral and basal margin grooved; anterior disc with consistently fine punctures separated by about two diameters, posterior disc along base and sides of pronotum with coarse punctures separated by one diameter or less.. Elytra microreticulate, convex, on sides and on apical declivity with short pale setae; humeral denticles fine, striae impressed, moderate punctures crenating inner margins of intervals; lateral intervals convex, punctate-swollen. Metasternum shining, midline deep, disc impunctate; abdominal sternites 2-4 finely fluted along sutures, sternite 5 with coarse fluting and close setae, sternites at middle with scattered, fine punctures bearing pale setae and a cluster of moderate punctures at extreme sides. Legs moderate in length; metafemur slightly longer and narrower than mesofemur, surface in apical half coarsely punctate; metatibia apically with small accessory spine; basal tarsomere of metatarsus equal in length to upper tibial spur and longer than following three tarsomeres together. In male, terminal spur of protibia hooked inwardly or sinuate; genitalia as in Figs 16-17.

R e m a r k s. This species is most close to *A. versicolor* and *jamaicensis*; it differs from both these species by the characters given in the key. Endemic to Hispaniola.

Ataenius versicolor SCHMIDT

(Figs 2, 18-19)

Ataenius versicolor SCHMIDT, 1916: 105.- HINTON 1937: 183; CHAPIN 1940: 35; DELLACASA 1988: 282 (catalogue).

Ataenius haitianus HINTON, 1937: 184-187, figs 15-19. - CHAPIN 1940: 35 (as synonym of *versicolor*). DELLACASA 1988: 137 (catalogue).

M a t e r i a l e x a m i n e d: *Ataenius versicolor*: holotype labelled 'Haiti', in NRS. *A. haitianus*: holotype male, labelled 'Haiti, San Michel 6.IV.1925 G.S. MILLER', 'No 53892 USNM'.

Other specimens (106). **Dominican Rep**.- Santo Domingo (SMTD, ZMHB); Santo Domingo, La Duarte, 3.VII.1978, CHALUMEAU & ABUD (labelled by CHALUMEAU as *A. haitianus*); Santo Domingo 30 m, 30.IV-10.V.1971, J.& S. KLAPPERICH; Boca Chica 10 m, 21.IV.1971, 14.IX.1972, J.& S. KLAPPERICH; Colonia 1000 m, 19.V.1972, J.& S. KLAPPERICH (CMN); Prov. La Vega, Jarabacoa 440 m, 24.VII-4.VIII.1995, S. & J. PECK (CMN, ISEA); 2 km E Manabao, 10.VII.1996, 18.VII.1996, leg. THOMAS & TURNBOW; vicinity La Genasa, 18.VII.1996 (FSCA, RTC)); Sanyana, 2.V.1973, J. KLAPPERICH (MHNG); Prov, Monte Cristi, 5 km N Villa Elisa, 1.VI.1994, M.C. THOMAS (PSC), 4.8 km N Villa Elisa 31.V.1994, R. TURNBOW; Peravia, Bani, 4.VII.1978, CHALUMEAU & ABUD (labelled by CHALUMEAU as *A. haitianus*) (ZMHB); Prov. Monsenor, Novel, Banao (PSC); Pedernales, 20 km N Cabo Rojo, 19.V.1992, R. TURNBOW; Barahona, 2 km E Payoso, 12.VII.1996, R. TURNBOW. (FSCA, RTC)

D i a g n o s t i c c h a r a c t e r s. Length 3.9 – 4.6 mm. Body (Fig. 2) oblong oval, shagreened, colour piceous black, apical third of elytra reddish to yellowish brown, in some specimens also lateral intervals reddish. Clypeal margin obtusely rounded to subangulate on each side of moderate median emargination, side almost straight to obtuse, slightly prominent gena; clypeal surface in both sexes with weak transverse wrinkles, middle of head minutely punctate, vertex with band of larger punctures separated by one diameter. Pronotum convex, lateral and basal margin grooved; surface punctures mixed fine to moderate and coarse, the former evenly distributed, coarse punctures sparse on disc, close on sides and here often confluent. Elytra microreticulate, convex, on sides and on apical declivity with short pale setae; humeral denticles fine, striae impressed, moderate punctures transversely crenating inner margins of intervals; lateral intervals convex to subcarinate, surface punctate-swollen. Metasternum shining, midline deep, disc almost impunctate; abdominal sternites rather coarsely fluted along sutures, sternite 5 with deeply fluted groove and close setae; surface of sternites from side to side with moderate punctures bearing pale setae. Legs moderate in length; metafemur slightly longer and narrower than mesofemur, surface in apical half

coarsely punctate; metatibia apically with small accessory spine; basal tarsomere of metatarsus longer than upper tibial spur and longer than following three tarsomeres together. In male, terminal spur of protibia hooked inwardly or sinuate; genitalia as in Figs 18-19.

R e m a r k s. *Ataenius versicolor* is most similar to *A. aciculus* and both species occur sympatrically. It differs from *aciculus* by its larger size and closer puncturation of the pronotum. Recorded by CHAPIN (1940) from Hispaniola and Puerto Rico (Point Cangrejos), however, I found no specimens of *versicolor* from Puerto Rico and from any nearest islands. Moreover, CHAPIN mentioned one specimen from Haiti (Port-au-Prince) as „abnormal individual of this species, 3.2 mm in length and less densely punctured than usual". It was most probably a specimen of *A. hispaniolae*. As indicated on the labels, the specimens examined were collected to ultraviolet and mercury vapor light, in arid thorn forest.

Ataenius gruneri CHALUMEAU

(Figs 20-21)

Ataenius gruneri CHALUMEAU, 1979: 229.-1981: 174-175, fig. 1.- DELLACASA 1988: 330 (catalogue).

M a t e r i a l e x a m i n e d. Holotype female (strongly damaged) labelled 'Cuba Soledad Jardin Botanique, 4.V.1969, V. DECU' in MNHN.

Other specimens (14). Cuba – Havana, 30.VII.1970, at light, leg. PATAKI (ISEA, JSC); Varadero, 18.VI.1972, J. DECELLE (IRSNB).

D i a g n o s t i c c h a r a c t e r s. Length 3.1 – 3.4 mm. Body shining, light brown, elytra lighter than fore body, unicoloured, apex of elytra minutely setigerous. Clypeal margin broadly rounded on each side of shallow median emargination, sides broadly rounded to obtuse gena, median area minutely punctate, vertex with narrow band of fine punctures separated by about one diameter. Pronotum convex, lateral and basal margin fine, not grooved, surface with fine, evenly distributed punctures separated by one diameter and with larger punctures widely scattered on disc, closer along base and on sides and here separated by their diameter or more. Elytra relatively short, surface microreticulate, humeral denticle fine; elytral striae impressed, strial punctures moderate in size, more or less crenating margins of intervals; intervals convex, surface punctures well visible. Metasternum shining, midline deep; abdominal sternites finely fluted along sutures, surface at middle with sparse, very fine punctures and a cluster of moderate punctures at extreme sides. Legs moderate in length; meso- and metafemora with few fine, scattered punctures and few larger setigerous punctures apically; basal tarsomere of metatarsus equal in length to upper tibial spur and longer than following three tarsomeres combined.

Male. Clypeal wrinkles barely visible, head evenly minutely punctate; pronotal punctures generally finer and less close than in female; disc of metasternum minutely setigerous, terminal spur of protibia bent inwardly; genitalia as in Figs 20-21.

Female. Head more convex than in male, clypeal wrinkles distinct, basal segment of metatarsus shorter.

R e m a r k s. The species was known until now from a single, damaged specimen and from extremely brief original description. *Ataenius gruneri* is intermediate between *A. hispaniolae* and *howdeni*, it differs from both these species by having the unicoloured elytra and allopatric distribution. It seems to be restricted to Cuba.

Ataenius jamaicensis CHAPIN

(Figs 22-23)

Ataenius jamaicensis CHAPIN, 1940: 33-34.- DELLACASA 1988: 276 (catalogue).

M a t e r i a l e x a m i n e d. Holotype male, labelled 'Jamaica Black River, 24.II.1937', 'Sta 377 BLACKWELDER', 'No 53326 USNM'.

Other specimens (11). **Jamaica** – Spanish Town, 2.II.1937; Gutters, 25.II.1937 (USNM). St Cath 3 mi E Spanish Town 10 m, 16.VII.1974; Clarondon Kellids, Masai R. 2700', 4.VIII.1974; Clarondon, Portland Ridge, 14.VIII.1974. S. & J. PECK (CMN, ISEA).

D i a g n o s t i c c h a r a c t e r s. Length 4.0 – 4.5 mm. Body oblong oval, microreticulate, shining, colour reddish brown to castaneous, elytra light brown to orange with intervals 2-5 and 7 in part longitudinally darkened, lateral intervals and apex of elytra finely setigerous. Clypeal margin obtuse to subangulate on each side of wide median emargination, sides nearly straight to right-angled, prominent gena; clypeal surface with weak wrinkles broken into small granules, median area minutely punctate, vertex with narrow band of fine, vague punctures. Pronotum convex, lateral and basal margin finely grooved, surface punctures mixed fine and moderate, deep, evenly distributed, on sides with intermixed larger but shallow punctures, generally separated by one diameter or less. Elytra slightly arcuate. humeral denticle fine; elytral striae impressed, strial punctures moderate in size, more or less crenating margins of intervals; intervals convex, discal intervals with minute scattered punctures, lateral intervals slightly swollen, moderately closely punctate. Metasternum shining, midline deep; abdominal sternites 2-3 finely fluted along sutures, sternites 4-5 with coarse fluting, surface at middle with sparse, fine, setigerous punctures and a cluster of coarse punctures at extreme sides. Legs moderate in length; meso- and metafemora with few fine, scattered punctures and few larger setigerous punctures apically; basal tarsomere of metatarsus a trifle longer than upper tibial spur and subequal to following four tarsomeres combined.

Male. Clypeal wrinkles barely visible, head evenly minutely punctate; pronotal punctures generally finer and less close than in female; terminal spur of protibia bent inwardly; genitalia as in Figs 22-23.

Female. Clypeal margin more angulate than in male, gena more prominent.

R e m a r k s. *Ataenius jamaicensis* is very characteristic and may be easily recognized by having the elytral intervals with longitudinal spots.

Ataenius insulae CHALUMEAU & GRUNER

Ataenius insulae CHALUMEAU & GRUNER, 1974: 805-806, figs 22,25.- CHALUMEAU 1983: 72, figs 35, 38; DELLACASA 1988: 344 (catalogue).

M a t e r i a l e x a m i n e d. Holotype male, labelled 'Guadeloupe, Delaunay, Museum Paris, coll. E.FLETIAUX 1919, *At. sulcatus* CHEVR.' „*At.insulae* CHAL & GRUNER " , in MNHN. Paratype, same data as holotype, in MNHN.

Other specimens (1 female). Guadeloupe (no additional data) (ISEA).

D i a g n o s t i c c h a r a c t e r s. Length 3.7-4.0 mm. Body oblong oval, head and pronotum piceous, elytra dark brown. Clypeal margin obtusely rounded on each side of moderate median emargination, side almost straight to small, obtuse gena; clypeal surface in both sexes with very fine transverse wrinkles, lateral area of head and vertex finely closely punctate. Pronotum convex, lateral and basal margin slightly grooved; anterior disc with consistently fine punctures becoming larger toward sides and base, on sides very close, bearing very short setae. Elytra convex, shagreened, on sides and on apical declivity with short pale setae; humeral denticles fine; striae deep with moderate punctures crenating inner margins of intervals; discal intervals convex, lateral and apical intervals subcarinate, each with row of deep punctures along striae. Metasternum feebly shining, midline deep, disc impunctate; abdominal sternites 2-4 finely fluted along sutures, sternite 5 with coarse fluting and close setae, surface of sternites from side to side with moderate, deep punctures bearing pale setae. Legs moderate in length; metafemur slightly longer and narrower than mesofemur, surface in apical half coarsely punctate; metatibia without accessory spine; basal tarsomere of metatarsus equal in length to upper tibial spur and longer than following three tarsomeres together.

R e m a r k s. The small series of specimens of *Ataenius insulae* does not allow to outline the sexual differences. In addition, the specimens seen are in a rather bad state. The species is intermediate between *A. aciculus* and *versicolor,* it differs from both these species by its unicoloured elytra and rugose puncturation of the pronotal sides.

Ataenius elongatus (PALISOT de BEAUVOIX)

(Figs 3, 24-25)

Scarabaeus elongatus PALISOT de BEAUVOIS, 1805: 104, pl. 3c, fig.8.

Ataenius elongatus: FLETIAUX & SALLÉ 1889: 397 (non PALISOT de BEAUVOIS, 1805: 104); SCHMIDT 1922: 432; CHAPIN 1940: 26; DELLACASA 1988: 124 (catalogue).

Type data: Described from Santo Domingo [Hispaniola]. Type specimen probably lost.

M a t e r i a l e x a m i n e d. Specimens (32). **Dominican Rep**. - Santo Domingo, 2 specimens identified by Schmidt as *A. elongatus* (ISEA, SMTD); Mao-Val-Verde 75 m, 24.III, 21.VII.1971, S.& J. KLAPPERICH (ISEA, USNM); San Juan de Naguana 415 m, 16.IX.1974; San Cristobal 35 m, 6.IX.1971 S. & J. KLAPPERICH (CMN, ISEA); Monte Cristi, 8.2 km N Villa Elisa, 1.II.1994, R. TURNBOW (FSCA, RTC).

D i a g n o s t i c c h a r a c t e r s. Length 5.1 – 5.7 mm. Body (Fig. 3) rather robust, piceus black, feebly shining. Clypeal margin obtusely rounded to angulate on each side of moderate median emargination, sides slightly rounded to obtuse, prominent gena; clypeal surface with weak wrinkles in front of median gibbosity, middle of head head with minute to fine, evenly distributed punctures. Pronotum transverse, moderately convex, lateral and basal margin distinctly grooved; surface with minute alutaceous sculpture and uniformly fine punctures throughout, separated by about 3 diameters. Elytra as wide as pronotum, moderately convex, humeral denticle fine, elytral striae fine and shallow, strial punctures indistinct, very shallow or invisible; discal intervals flat, sometimes with fine scattered punctures, lateral intervals convex, smooth. Metasternum shining, midline deep, ending anteriorly in deep pore; abdominal sternites finely fluted along sutures, surface finely alutaceous with scattered, very fine punctures from side to side and a cluster of moderate punctures at extreme sides. Legs moderate in length; meso- and metafemora smooth with few vague, scattered, very fine punctures; metatibia with small accessory spine; basal tarsomere of metatarsus shorter than upper tibial spur and slightly longer than following three tarsomeres combined.

Male. Head less gibbose than in female, clypeus less deeply emarginate, tarsi longer, terminal spur of protibia hooked inwardly at the tip; genitalia as in Figs 24-25.

Female. Body usually larger than in male.

R e m a r k s. Although the type specimen of *Ataenius elongatus* was not accessible, descriptions given by SCHMIDT (1922) and CHAPIN (1940) are sufficient to recognize this distinct species. It is known only from Hispaniola, recorded by CHAPIN (1940) from Haiti: Port-au-Prince, San Michel, Bayeux and from Dominican Rep.: Santiago, San Francisco Mountains, Barahona, Monte Cristi and Puerto Plata. The record by FLETIAUX & SALLÉ (1889) from Guadeloupe concerns seemingly *Ataenius picinus* HAROLD.

Ataenius raccurti CHALUMEAU

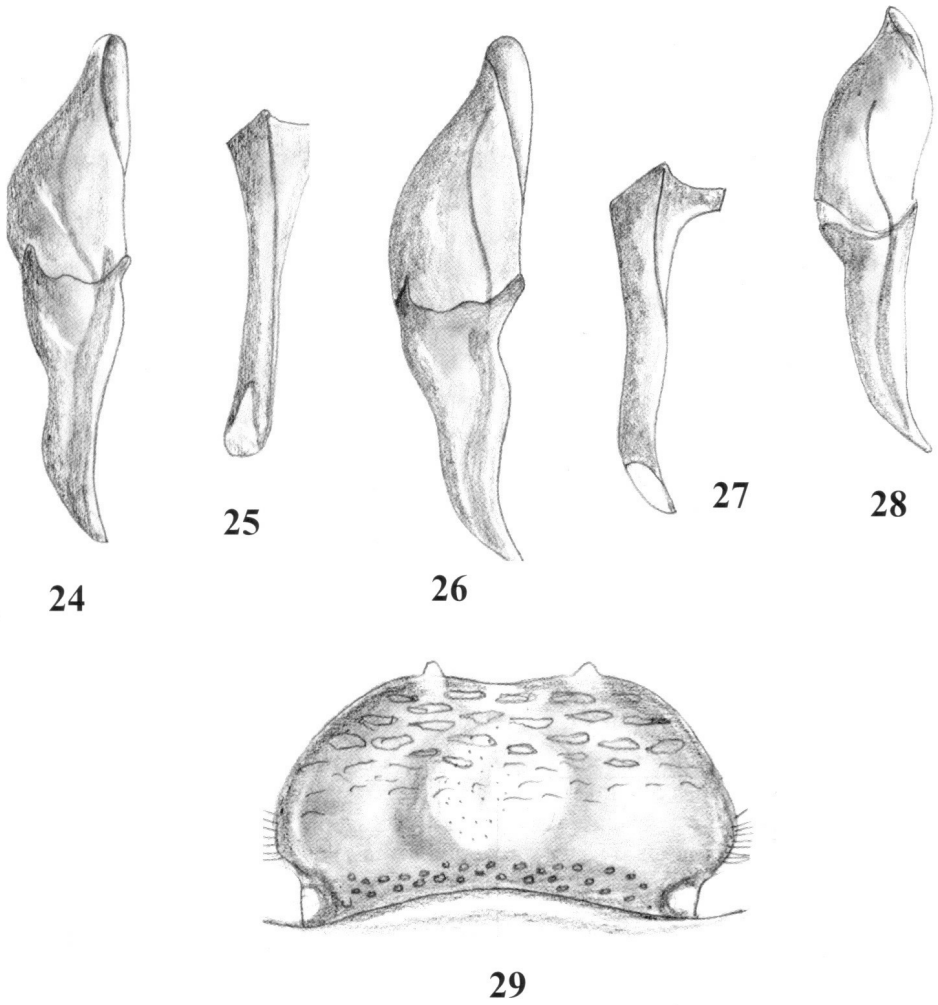
(Figs 26-27)

Ataenius raccurti CHALUMEAU, 1978: 50-51, figs 3,8.- DELLACASA 1988: 330 (catalogue).

Type data. Holotype male ‘Haiti Sources Matelas, 1.V.1975 (RACCURt)’,(not seen), in FCHC.

M a t e r i a l e x a m i n e d. Paratype labelled ‘Dominican Rep., Santo Domingo 30 m, 20.IV.1971, J. & C. KLAPPERICH’ in CMN.

Other specimens (14). **Dominican Rep**. – Santo Domingo 30 m, 20.IV.1971, J. & S. KLAPPERICH (CMN); La Vega, Buena Vista, Hotel Montana, 19.VIII.1996, M. C. THOMAS (CMN, ISEA); Colonia 1000 m, 19.V.1972; Monte Cristi, 8.2 km N Villa Elisa, 1.VI.1994, R. TURNBOW (FSCA-RTC). **Jamaica** – Portland 1 mi W Ecclesdown, 1500’, 10.VIII.1974; Westmoreland, Negril, 31.VIII.1974, S. & J. PECK. (CMN, ISEA).



Figs 24-29. 24-28 – Male genitalia. 24, 25 – *Ataenius elongatus* (PAL.): 24 – aedeagus in lateral view, 25 – left paramera in dorsal view; 26, 27 – *A. raccurti* CHAL.: 26 – aedeagus in lateral view; 27 – left paramera in dorsal view; 28 – *A. michelii* CHAL.: aedeagus in lateral view; 29 – *A. jardinensis* sp. n., head.

D i a g n o s t i c c h a r a c t e r s. Length 3.8 – 4.2 mm. Body oblong oval, black, moderately shining. Head gibbose medially, clypeal margin rounded on each side of moderate median emargination, side slightly arcuate to small, obtuse gena; clypeal surface in both sexes with very fine transverse wrinkles in front of gibbosity, middle of head minutely punctate, punctures on vertex more distinct and closer. Pronotum convex, lateral and basal margin distinctly grooved; anterior disc with minute to fine punctures, posterior disc along base and lateral area of pronotum with coarse, close punctures separated by one diameter or less. Elytra convex, slightly arcuate, humeral denticles distinct; striae deep with moderate punctures crenating inner margins of intervals; discal intervals weakly convex or flat, lateral intervals convex to subcarinate with few scattered punctures or impunctate. Metasternum feebly shining, midline deep, disc impunctate; abdominal sternites finely fluted along sutures, surface of sternites at middle with minute scattered punctures, on sides with group of larger, shallow punctures. Legs moderate in length; metafemur slightly longer than

mesofemur; metatibia without accessory spine; basal tarsomere of metatarsus equal in length to upper tibial spur.

Male. Pronotal punctures less close than in female; terminal spur of protibia curved inwardly; basal tarsomere of metatarsus subequal to following three tarsomeres combined; disc of pygidium finely scabrous; genitalia as in Figs 25-26.

Female. Basal tarsomere of metatarsus longer than following three tarsomeres combined; disc of pygidium with row of granules on scabrous surface.

R e m a r k s. *Ataenius raccurti* is most closely related to *A. michelii*. It differs from that species by the characters given in the key.

Ataenius michelii CHALUMEAU

(Fig. 28)

Ataenius michelii CHALUMEAU, 1978: 49-50, figs 2,7.- DELLACASA 1988: 330 (catalogue).

Type data. Holotype male 'Puerto Rico, Ponce Rd 132 km, 30.V.1975, J. MICHELI' (not seen), in FCHC.

M a t e r i a l e x a m i n e d. Paratype female, same locality as holotype, 12.XI.1976, J. MICHELI', in CMN.

Other specimens (2). **Puerto Rico** – Ponce Rd. 132 km, 20.XII.1976, J. MICHELI (CMN, ISEA).

D i a g n o s t i c c h a r a c t e r s. Length 3.7 – 3.9 mm. Body oblong oval, shining black. Head strongly gibbose medially, clypeal margin rounded on each side of shallow median emargination, side slightly arcuate to small, obtuse gena; clypeal surface with very fine transverse wrinkles in front of gibbosity, remaining surface of head scarcely finely punctate. Pronotum convex, lateral and basal margin distinctly grooved; anterior disc with very fine punctures separated by about 3 diameters, posterior disc along base with coarse punctures becoming closer toward sides and here contiguous, slightly confluent. Elytra convex, arcuate, humeral denticles distinct; striae deep with moderate punctures crenating inner margins of intervals; intervals convex, impunctate. Metasternum shining, midline impressed, disc impunctate; abdominal sternites distinctly fluted along sutures, surface of sternites at middle with minute scattered punctures, on sides with group of larger, shallow punctures. Legs moderate in length; metafemur slightly longer than mesofemur; metatibia without accessory spine; basal tarsomere of metatarsus equal in length to upper tibial spur and subequal to following four tarsomeres combined. In male, terminal spur of protibia bent downward; genitalia as in Fig. 27.

R e m a r k s. This distinct species is most closely related to *A. raccurti* but it differs by the characters given in the key. The male genitalia are similar in both species.

Ataenius jardinensis sp.n

(Fig. 29)

Holotype female, Cuba, Prov. Santiago, Jardin Botanico, 50 m, 5.XII.1995, scrub forest litter, S. & J. PECK, in HAHC (CMN). Paratype female, same data as holotype, in ISEA.

D e s c r i p t i o n o f f e m a l e s. Length 3.8 – 4.0 mm. Body oblong oval, piceous black, moderately shining, legs reddish black. Head (Fig. 29) gibbose medially, clypeal margin finely denticulate on each side of moderate median emargination, side arcuate to small, right-angled gena; clypeal surface in front of gibbosity with coarse transverse wrinkles broken into short segments, middle of head with traces of wrinkles, vertex with band of fine punctures separated by one diameter. Pronotum convex, lateral and basal margin widely grooved, lateral margin crenate-fimbriate; surface punctures mixed minute and coarse, evenly distributed, generally separated by one diameter, less close along anterior margin. Elytra convex, slightly arcuate, lateral and apical area with pale, upright setae; humeral denticles distinct; striae deep, strial punctures moderate in size, transversely crenating inner margins of intervals; intervals convex, discal intervals finely

scarcely punctate, lateral intervals slightly swollen with irregular rows of large punctures. Metasternum shining, midline deep, disc bounded by coarse punctures; abdominal sternites finely fluted along sutures, sutures grooved; surface of sternites from side to side coarsely punctate, punctures closest at extreme sides and on sternite 5, setigerous; disc of pygidium finely scabrous, setigerous. Legs moderate in length; metafemur slightly longer than mesofemur with fine posterior line and without anterior fringe of setae; metatibia with small accessory spine; tarsi relatively short; basal tarsomere of metatarsus shorter than upper tibial spur and subequal in length to following four tarsomeres together.

Male unknown.

R e m a r k s. *Ataenius jardinensis* sp. n. is quite distinct from most of the known West Indian *Ataenius* and from those of the *terminalis*-group as well. The finely dentate clypeal edge and the lateral elytral intervals with row of large punctures bearing erect setae, easily distinguish this species.

Ataenius klapperichi HOWDEN

(Fig. 30)

Ataenius klapperichi. HOWDEN, 1978: 378-379, figs 1, 2; Dellacasa 1988: 148 (catalogue).

Type data. Holotype female: Dominican Rep., Colonia, 1000 m. (not seen) in NMB.

M a t e r i a l e x a m i n e d. Paratypes females (3). Dominican Rep. – Colonia, 1000 m, 14.IV, 20.VI, 12.VIII.1972, J. & S. KLAPPERICH (CMN).

D i a g n o s t i c c h a r a c t e r s o f f e m a l e s. Length 4.2-4.4 mm. Oblong, moderately convex, feebly shining, piceous; elytra rough, most elytral punctures each with short, upright seta. Head gibbose medially, clypeal margin rounded on each side of moderate median emargination, sides nearly straight to abruptly rounded gena; clypeal surface transversely rugose in front of gibbosity, with scattered moderate punctures posteriorly, vertex between eyes with band of close punctures. Pronotum moderately convex, margins distinctly grooved, crenate-fimbriate; surface moderately, evenly closely punctate, punctures becoming larger and contiguous

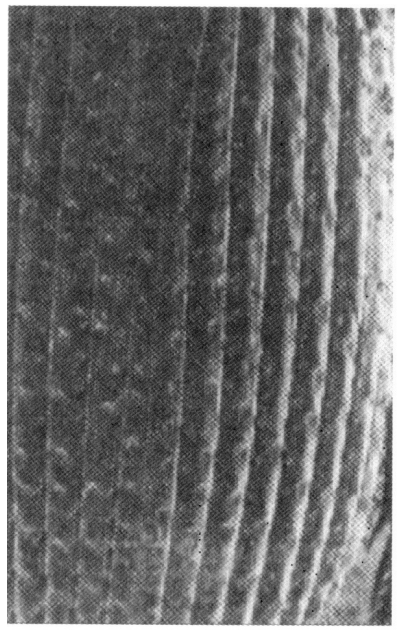


Fig. 30. *Ataenius klapperichi* HOWD.: sculpture of elytra.

laterally, each with very fine, semi-recumbent seta. Elytra (Fig. 30) nearly parallel, humeri moderately dentate, striae deep, with minute punctures; intervals convex, their raised portion irregularly interrupted by large punctures, most punctures in outer row of each interval with stout, upright seta. Metasternum shining, midline shallowly intented, surface either side coarsely punctate; abdominal sternites with increasingly longer fluting along sutures, sternite 5 with long and coarse fluting; surface coarsely punctate from side to side, punctures generally separated by more than one diameter, setigerous; disc of pygidium dull and finely granular, setigerous. Legs moderate in length; meso- and metafemora parallel-sided with moderate punctures bearing short setae; metafemur with very fine posterior line, without anterior fringe of setae; apex of metatibia with small accessory spine; basal tarsomere of metatarsus subequal in length to upper tibial spur and subequal to following four tarsomeres combined.

Male unknown.

R e m a r k s. *Ataenius klapperichi* is most closely related to *A. jardinensis* sp.n., but is differs from that species and from all other species in the group by its unusually rough and setose appearance.

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