

Five new species of sub-Saharan and Arabian *Acmaeodera* (Coleoptera: Buprestidae)

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Four new *Acmaeodera* from the Ethiopian region are described, illustrated and compared with related species. One species, *A. (Cobosiella) sudanica* sp. n., belongs to a subgenus not previously recorded from the Ethiopian region. *A. (s. str.) abyssinica* Kerremans, *A. (s. str.) chaetosoma* Obenberger, *A. (s. str.) louwi* Holm, *A. (s. str.) luteopicta* Fahraeus, *A. (s. str.) s. signata* Castelnau & Gory, *A. (s. str.) s. gaerdesi* Descarpentries, *A. (s. str.) s. keniensis* Thery, *A. (s. str.) stictithorax* Obenberger, *A. (s. str.) lugubrina* Boheman, and *A. (s. str.) virgo* Boheman, are transferred to the subgenus *Acmaeotethya* Volkovitsh, and *A. (Acmaeotethya) holmi* sp. n., *A. (Acmaeotethya) ruhaensis* sp. n. and *A. (Acmaeotethya) bjornstadi* sp. n. are also assigned to this subgenus. A revised key to part of Holm's *Acmaeodera* (s. str.) (Holm, 1978) is provided. *A. (s. str.) guichardi* sp. n. from Muscat is described, illustrated and compared with related species.

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Introduction

Since Holm (1978) revised the sub-Saharan *Acmaeodera*, Volkovitsh (1979) has undertaken a major reassessment of the generic and subgeneric classification of the Palaearctic *Acmaeoderini* which affects the subgeneric assignment of many of the sub-Saharan species. More recently Volkovitsh & Bellamy (1992) have indicated that a significant majority of the species placed by Holm (1978) in his *Acmaeodera* s. str. belong in the subgenus *Acmaeotethya* or undescribed related subgenera.

In this paper five new species of sub-Saharan and Arabian *Acmaeodera* s. lat. are described. One new species belongs to the mainly Indomalaysian subgenus *Cobosiella*, one to the subgenus *Acmaeodera* and three to the subgenus *Acmaeotethya*. Two previously described species, *Acmaeodera chaetosoma* Obenberger and *Acmaeodera stictithorax* Obenberger, considered by Holm (1978) not to be of sub-Saharan origin, but which are almost certainly from this region,

are also here assigned to the subgenus *Acmaeotethya*.

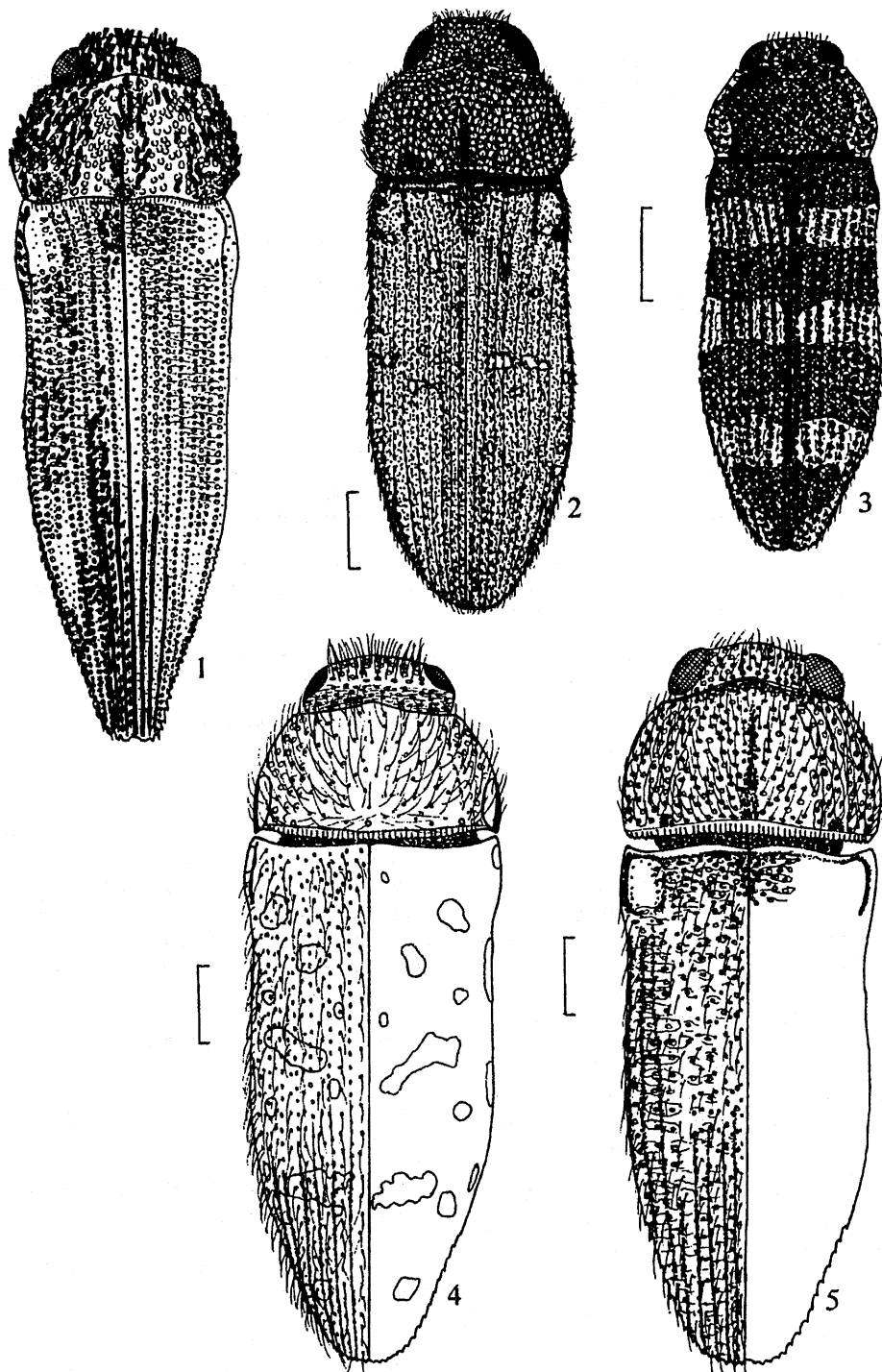
A revised key is provided to part of Holm's *Acmaeodera* s. str. incorporating *A. chaetosoma* and *A. stictithorax* and two of the new species assigned to the subgenus *Acmaeotethya*.

Acmaeodera (Cobosiella) sudanica sp. n. (Fig. 1)

Holotype. ♀, Sudan, S. Kordofan, El Muglad, 5. V. 81, J.H. Martin, B.M. 1981-407. In The Natural History Museum, London.

Description. Length 9.6 mm. Colour – mainly blackish bronze; elytra dark chocolate brown with an orange vitta extending along the epipleura and the 10th interstice from the basal angle to just beyond the middle. Pubescence white, scale-like. Body elongate and strongly attenuated to the apex, with a relatively slight dorsal inflection.

Head – vertex slightly convex, without a median depression or line, very broad, 2.41× as wide as transverse diameter of the eye, front only slightly widening to vertex; vertex



Figs 1-5. *Acmaeodera* spp., dorsal aspect. 1, *Acmaeodera* (*Cobosiella*) *sudanica* sp. n.; 2, *A.* (s. str.) *guichardi* sp. n.; 3, *A.* (*Acmaeotethya*) *holmi* sp. n.; 4, *A.* (*Acmaeotethya*) *ruahaensis* sp. n.; 5, *A.* (*Acmaeotethya*) *bjornstadi* sp. n. Scale bar = 1.0 mm.

1.10× width of front above antennal depressions, covered with small ovate umbilicate punctures enclosing large central granules. Inner margin of eyes slightly sinuate, eyes moderately convex but not protruding. Epistome moderately broad, weakly concave, with a broad, deep median excision and strongly upturned lower rim. Supra-antennal tubercles moderately developed, unpunctured, but with obvious microsculpture. Pubescence consisting of white, recumbent, elongate, clavate scales, partly obscuring the underlying sculpture.

Antenna – 1.76× as long as vertical diameter of eye; serrate from 4th segment; 2nd segment elongate, barrel-shaped; 3rd segment narrower and slightly longer than 2nd, widening at apex; 4th slightly longer than 3rd; 5th–10th scarcely longer than wide, shorter than 4th; 11th ovate.

Pronotum – convex, with a slight median groove; latero-basal pits large and deep, surrounded by shallow distinct depressions; pre-scutellar pit small and deep; lateral carina complete, acute; widest behind the middle, curvilinearly narrowing to posterior angles, strongly almost rectilinearly narrowing to the anterior angles; 1.54× as wide at base as long; anterior margin weakly bisinuate with a slightly produced arcuate median lobe, without a well defined border; posterior margin straight. Sculpture at centre of pronotum consisting of very shallow, partly evanescent, round, umbilicate punctures, enclosing large central granules; laterally consisting of umbilicate punctures with distinct central granules, separate near the lateral carina, but partly coalescent to form an elongate net-like sculpture nearer the centre. Pubescence consisting of short recumbent, notched, leaf-shaped scales laterally, and more elongate club-shaped scales centrally; not completely obscuring the underlying sculpture.

Elytra – markedly elongate, 2.76× as long as wide at the base; slightly constricted behind the humeral callosities; strongly rectilinearly narrowing from the mid length to the narrowly rounded, slightly spatulate apices; apices with small acute serrations. Epipleura with a broad distinct subhumeral incision. Interstices 1–8 flat, 9 and 10 convex; 9 serrate in apical third; 1–2× as wide as striae punctures; covered with small round punctures and transversely rugose in basal third. Strial punctures large, deep, slightly

elongate, depressed in slight grooves in apical third; extending to apex. Pubescence white, consisting of broad club-shaped scales, slightly shorter than the width of an interstice.

Anterior margin of prosternum straight, with a well defined marginal groove. Prosternal process sparsely punctured with tiny punctures on a shiny background. Hypomera, mesosternum and metacoxae densely punctured with large, round, umbilicate punctures enclosing large, flat, central granules; puncturation largely obscured by recumbent, white, notched, leaf-shaped scales, which are broader on the hypomera.

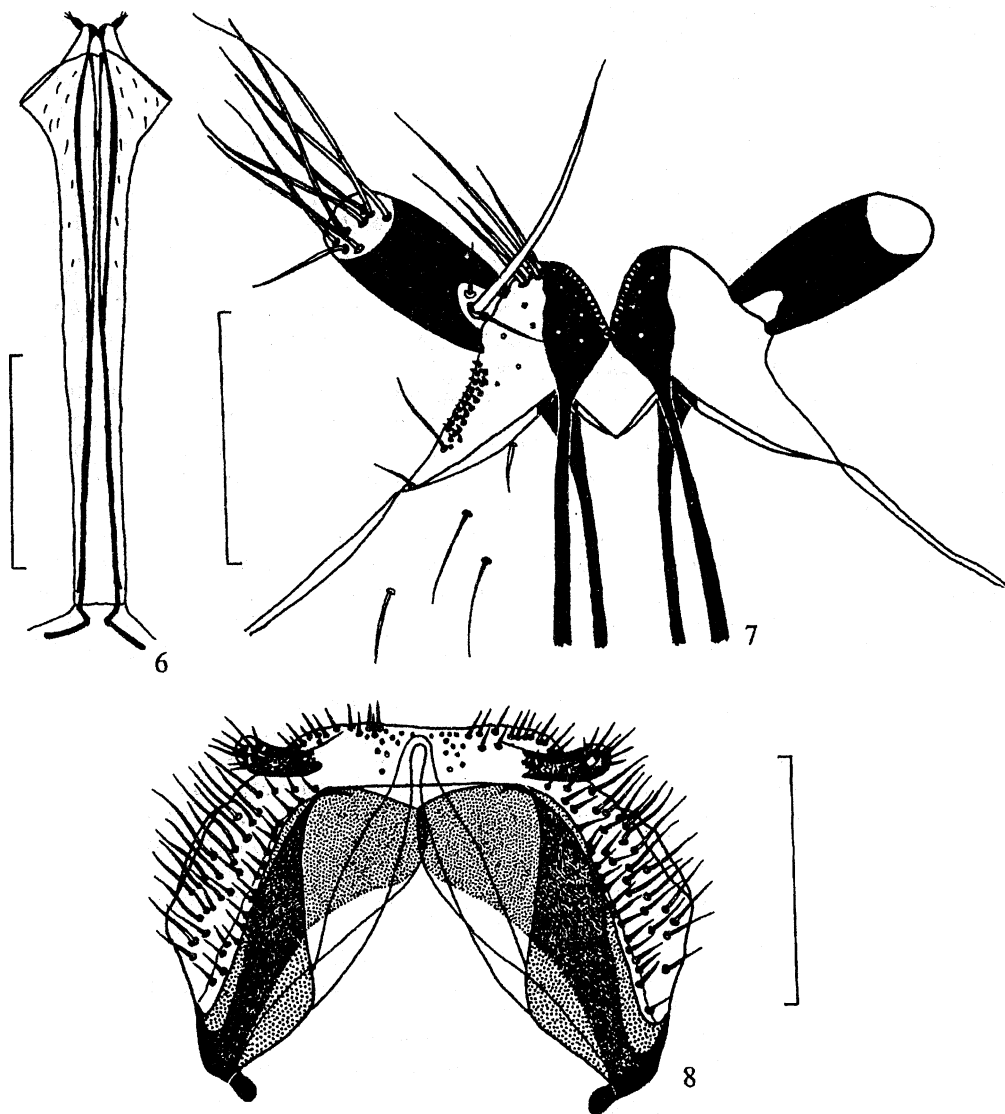
Abdominal sternites – densely punctured laterally, with ovate, umbilicate punctures, enclosing large central granules, the punctures becoming lunate nearer the centre, and simple at the centre. Pubescence consisting of apically branched, ovate to nearly round scales laterally, which become sparser and narrower towards the centre. Apical sternite very elongate, about as long as wide; without depressions; narrowly rounded and with a slight border apically.

Legs – all tibiae slightly widening from base to apex; fore tibia short, about 1.5× length of fore tarsi; metatibia with a row of yellowish setae on outer edge. Tarsal segments 1–4 of about equal length, with ventral pads. Tarsal claws elongate, with a sharp tooth almost reaching the apex of the claw (the unknown ♂ may have the tooth reaching the apex of the claw, as in some other *Cobosiella* species).

Ovipositor tubular, typical of *Cobosiella* (Figs 6, 7).

♂ unknown.

Comparison. This is the first *Cobosiella* species known from the sub-Saharan region. It is most similar to *Acmaeodera* (*Cobosiella*) *chotanica* Sem. from Central Asia in its colour, elytral markings and sculpture, but differs from this species in having elongate, narrow elytral apices, and very broad body scales. It differs from all other described *Cobosiella* species in the latter ways also, and in its elytral markings. In general shape it is similar to *A. grata* Fahraeus, *A. affabilis* Kerremans and *A. rubidiplagis* Obenberger of the sub-Saharan fauna, but these species based on the structure of the aedeagus and other characteristics do not belong to the subgenus *Cobosiella*.



Figs 6-8. *Acmaeodera* spp., ovipositor. 6-7, *A. (Cobosiella) sudanica* sp. n.; 8, *A. (s. str.) guichardi* sp. n. Scale bar = 1.0 mm (Fig. 6); 0.1 mm (Figs 7-8).

***Acmaeodera (Acmaeodera) guichardi* sp. n.**
(Fig. 2)

Holotype. ♀, *Museat*, Ruwi, III. 1976, K. Guichard, Brit. Mus. 1977-95. In The Natural History Museum, London.

Description. Length 8.3 mm. Colour – mainly black with a slight bronze reflection; underside blackish bronze; elytra black to deep purple-brown with several small orange-yel-

low spots. Body rather narrow, subcylindrical, with a very slight dorsal inflection.

Head – vertex convex, without a median depression or line, 1.80× as wide as transverse diameter of eye; 1.07× as wide as front above antennal depressions; scarcely widening to vertex; covered with large, round, umbilicate punctures enclosing large central granules, and very small setae bearing punc-

tures. Inner margin of eye slightly sinuate; eyes moderately convex but not protruding. Epistome broad, concave, with a slight median excision and strongly upturned lower rim. Supra-antennal tubercles slightly developed, unpunctured, but with obvious microsculpture. Pubescence thin, fairly short, erect, white.

Antennae – 1.28× as long as vertical diameter of eye; serrate from 5th segment; 2nd segment barrel-shaped, 3rd narrower than 2nd and about as long, 4th longer than 3rd and widening distally, 5th–10th triangular, scarcely wider than long, 11th ellipsoidal.

Pronotum – convex with a narrow, shallow median groove; latero-basal and pre-scutellar punctures small, the latter surrounded by a distinct depression; lateral carina fragmented, only obvious near the basal angle; widest just behind the middle, strongly curvilinearly narrowing to the anterior angles, strongly constricted just in front of the basal angles; 1.50× as wide at base as long; anterior margin weakly bisinuate with a slightly produced angulate median lobe, and a complete, well defined border; posterior margin only slightly concave. Sculpture consisting of large umbilicate punctures enclosing large central granules and tiny setae bearing punctures; the rims of the umbilicate punctures coalescing to form a net-like sculpture. Pubescence short, fine, curved, randomly orientated, white.

Elytra – 2.47× as long as wide at base, slightly widening from basal angles over the humeral callosities, thence parallel-sided to apical third, before converging to the broadly rounded apex; lateral serrations small, acute, confined to the apical third. Epipleura below humeral callosity almost straight, without an incision. Interstices 1–8 flat, 9–11 convex, subequal, about 3.5× width of striae punctures; each interstice with a single row of very small punctures and transverse rugae; striae punctures elongate, arranged in regular rows right up to the base, coalescent in the apical third to form striae. Pubescence white, length about equal to width of interstice, sloping posteriorly, arranged in straight rows. Scutellar area depressed; basal margin slightly raised.

Anterior margin of prosternum concave, with a well marked marginal groove. Prosternal process densely punctured with small, round, flat-bottomed, umbilicate punctures. Pro-episternum (hypomeron), mesothorax and metacoxae densely punctured with

large, round umbilicate punctures, enclosing large flat central granules. Abdominal sternites densely punctured with lunate punctures, which coalesce to form a transverse rasp-like sculpture on the distal two segments; apical segment short, regularly rounded at apex, with a depression behind the margin. Underside clothed with fine, white, short recumbent hairs.

Hind coxa with a concave distal margin and an angular process near the outer edge which is easily visible from above. Tibiae thin, not widening apically; metatibia with a row of thick brownish setae on the outer edge. Tarsal segments 1–4 of equal length, only 3–4 with ventral pads. Tarsal claws rather long, thin, with a small blunt tooth in the basal half.

Ovipositor short, urtic-like, not modified, typical of *Acmaeodera* (s. str.) (Fig. 8).

♂ unknown.

Comparison. This species belongs to the *brunneipennis* (= *elater*) group of the subgenus *Acmaeodera* of Volkovitsh (1979), based on the structure of the tarsal claws. It can be distinguished from *A. brunneipennis* Kerremans and *A. damasica* Théry by the form of the ovipositor and the elytral markings. The elytral markings are similar to those of *A. transcaucasica* Sem., *A. brevipes* Kiesenwetter, *A. distigma* Obenberger and melanistic forms of *A. babatauensis* Obenberger, placed by Volkovitsh (1979) in the *cylindrica* group, but *A. guichardi* differs from these species by its more elongate pronotum, elongate tarsal claws and form of the ovipositor. Additionally, it differs from *A. transcaucasica* by its elongate body; from *A. brevipes* and *A. distigma* in having straight not curved hairs on the head and pronotum, and from *A. babatauensis* in having only white pubescence. This species is only the third species of the subgenus *Acmaeodera* known from the Ethiopian region and Arabia, the other two species being *A. swammerdami* Obenberger from Southern Africa and *A. pici* Obenberger described from Saudi Arabia ("Arabia felix"). The latter species differs in having scale type pubescence, spots at the posterior angles of the pronotum, lighter elytral colour and a different ovipositor type. Holm (1978) places many other Ethiopian *Acmaeodera* (s. lat.) in the subgenus *Acmaeodera*, but Volkovitsh & Bellamy (1992) point out that the majority of Ethiopian species assigned to this subgenus by Holm belong to the subgenus *Acmaeotethya* or related undescribed subgenera.

***Acmaeodera (Acmaeotethya) holmi* sp. n.**
(Fig. 3)

Holotype. ♂, **Socotra**, Hadibo Plain, Ras H.M., Foothills 400m, 30.IV.1967, K. Guichard, B.M. 1967-455. In The Natural History Museum, London.

Paratypes. **Socotra**, Hadibo Plain: 2♀, Kalansiya S.L., 25.III.1967, K. Guichard; 1♀, 0-500', 30.IV.1967, K. Guichard. All in The Natural History Museum, London.

Description. Length 5.5-9.0 mm. Colour – black with a violet or dark green reflection and the following orange markings: lateral margins of the pronotum extending narrowly onto the pro-episternum (hypomeron), sometimes also with a small spot in the mid line, near the basal margin, and one or two small spots in the mid line in the anterior half of pronotum; each elytron with three slightly sinuate transverse fasciae, extending from the epipleura to the 1st elytral interstice, and sometimes to the suture; these fasciae sometimes narrowly joined along the epipleura; a macula near the apex of the elytron reaching the epipleura, and sometimes extending along the epipleura to the suture; sometimes in addition with a small macula near the basal margin of the elytron; hind coxae sometimes partially orange. Body rather broad, sub-cylindrical, without a marked dorsal inflection.

Head – vertex convex with a slight median depression; $2.13\times (2.00-2.33; n = 4)$ as wide as transverse diameter of eye; $1.10\times (1.08-1.12; n = 4)$ as wide as front above the antennal depressions; densely punctured with small umbilicate punctures. Pubescence moderately long, thin, slightly downcurved, white. Epistome broad, concave, with a broad, deep median incision, and an upturned lower rim; not separated from vertex by a groove. Supra-antennal tubercles well-developed, unpunctured, but with obvious microsculpture. Eyes moderately convex but not protruding.

Antennae – ♂ $2.20\times$ (holotype) vertical diameter of eye; ♀ $1.76\times (1.66-1.87; n = 3)$ vertical diameter of eye.

Pronotum – weakly convex; latero-basal punctures small; pre-scutellar puncture very small; lateral carina complete, sharp, only basal half visible from above; widest slightly behind middle; lateral margins weakly curvilinearly to almost rectilinearly convergent to the apical angles; strongly curvilinearly convergent from widest point to near the basal angles, then parallel-sided for a short distance. $1.56\times (1.50-1.65; n = 4)$ as wide at

base as long. Anterior margin slightly upturned, weakly bisinuate with a slightly produced, slightly angulate median lobe, with a narrow, inconspicuous beaded border, which is obsolete at the centre of the median lobe; posterior margin very slightly bisinuate. Sculpture consisting of round, simple (sloping) punctures, separated by about half their own diameter in central half, becoming larger, denser and polygonal in lateral half. Pubescence thin, very short, curved, gingery on most of the central half, white on the lateral half and sometimes along the anterior margin. Lacking obvious microsculpture.

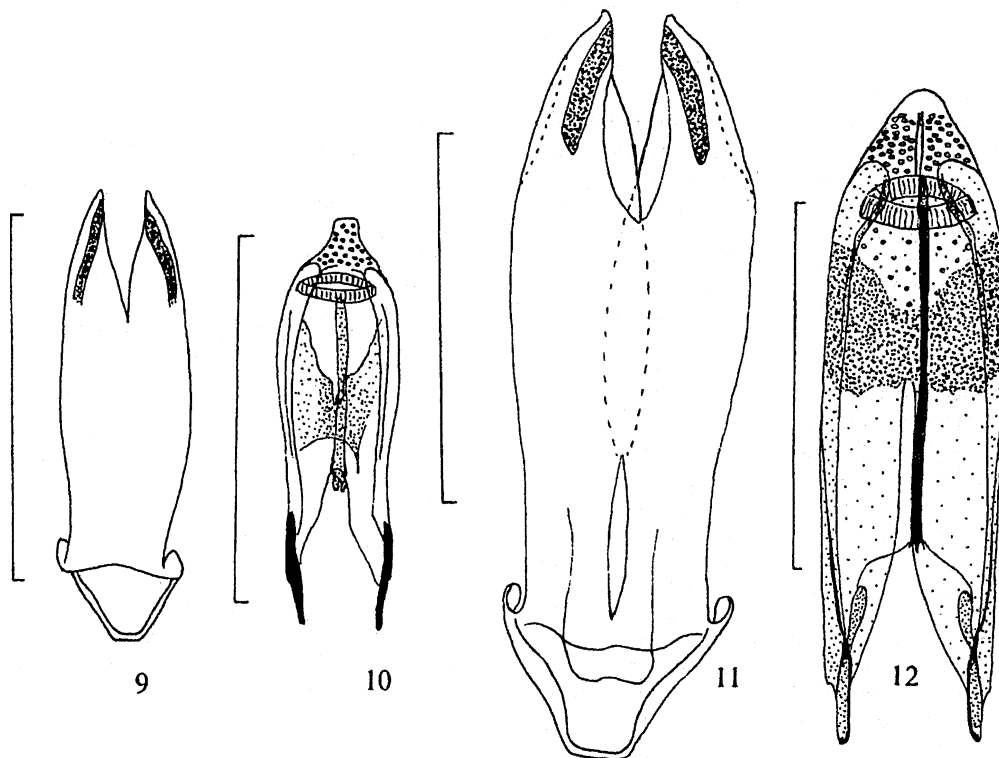
Elytra – $2.25\times (2.22-2.28; n = 4)$ as long as wide at base; slightly, rectilinearly widening from the basal angles over the humeral callosities, then slightly narrowing for a short distance, before gradually widening to just beyond the mid-length, then strongly, almost rectilinearly narrowing to the broadly rounded apex; lateral serrations small, slightly acute, confined to the apical quarter. Epipleura with a fairly deep incision beneath the humeral callosity. Interstices varying from $1-3\times$ width of stria punctures; almost flat except in the apical quarter, where most become convex, the 9th being costate for a short distance; interstices 1, 4, 5, and 6 with a single regular row of punctures; 2, 3, and 7-11 usually with two staggered rows of punctures for part of their length. Striae becoming deep in the apical quarter. Pubescence inconspicuous, thin, shorter than width of the interstice, curved, gingery or black. Scutellar area depressed; basal margin forming a raised rim in the central half.

Underside – densely punctured with fairly small, round, to slightly lunate punctures, except on the pro-episternum (hypomeron), where punctures larger, shallow and umbilicate. Clothed with short, white, curved, backwardly directed pubescence. Anterior margin of prosternum with a raised rim for its entire length; posterior margin of pro-episternum moderately strongly curved.

Hind coxae with a slight to well developed spine dorsally, at the latero-distal angle; hind margin weakly concave ventrally. Tibiae thin, not spatulate or serrate. Tarsal segments 1-4 with ventral pads, very small on segment 1. Claws with a large, broad, blunt tooth in the basal half.

Aedeagus as in Figs 9 and 10.

Ovipositor tubular, $4.65\times$ as long as width of the broadened apical part.



Figs 9-12. *Acmaeodera* spp., male genitalia. 9-10, *A. (Acmaeotethya) holmi* sp. n. (9, tegmen; 10, penis); 11-12, *A. (Acmaeotethya) bjornstadi* sp. n. (11, tegmen; 12, penis). Scale bar = 1.0 mm.

Etymology. This species is named after Erik Holm in recognition of his efforts in sorting out the systematics of the *Acmaeodera* of the Ethiopian region.

Comparison. *A. holmi* sp. n. keys to *A. luteopicta* Fähræus in Holm's key to *Acmaeodera* s. str. (Holm, 1978). In colour and general form it is very like *luteopicta* but differs in having the elytral stria punctures near the suture much larger and deeper; the pronotal puncturation not forming concentric ridges laterally and the underside puncturation except on the pro-episternum consisting of deep, round punctures, not umbilicate or lunate ones. *A. holmi* shares many of characters with species placed in the subgenus *Acmaeotethya* (Volkovitsh, 1979), namely the form of the aedeagus, which is similar to that seen in members of the *A. cisti* species group; lateral margin of elytra with weak serrations confined to the apical third, and the prominent epipleural incision beneath the humeral callosity. This species and

others mentioned in the key below are all here assigned to the subgenus *Acmaeotethya*.

***Acmaeodera (Acmaeotethya) ruahaensis* sp. n.**
(Fig. 4)

Holotype. ♀, Tanzania, Ruaha N.P., Chariwindi Mt., 1000m, 12.I.1973, 1325, A. Bjornstad. In The Natural History Museum, London.

Description. Length 9.0 mm. Colour – black and shiny; elytra with numerous small orange-yellow spots; pronotum with an elongate orange-yellow spot at the latero-basal angle. Body moderately broad, sub-cylindrical, without a marked dorsal inflection.

Head – vertex convex, without a median depression or line; $2.88\times$ as wide as transverse diameter of eye; $1.23\times$ as wide as front above antennal depressions; covered with small umbilicate punctures. Pubescence long, thin, white, erect but downcurved at apex. Epistome broad, concave, with a slight median incision and a strongly upturned

lower rim; not separated from vertex by a groove. Supra-antennal tubercles slightly developed, unpunctured, but with obvious microsculpture. Eyes moderately convex, but not protruding.

Antennae – incomplete, serrate from 4th segment; 2nd almost $2\times$ as long as wide; 3rd about equal to 2nd, slightly widening at apex; 4th slightly longer than wide; 5th and 6th slightly wider than long; 7-11 missing.

Pronotum – convex; latero-basal and pre-scutellar punctures small, not surrounded by depressions; lateral carina complete, only basal third visible from above, strongly upturned; widest at the basal quarter, almost parallel-sided in the basal quarter, strongly narrowing from the widest part to the anterior angles, $1.94\times$ as wide at base as long. Anterior margin weakly bisinuate, with a slightly produced, obtusely angulate median lobe, with a narrow scarcely discernible border; posterior margin straight in the central two-thirds, noticeably produced forward in lateral third. Sculpture consisting of small, sparse, simple punctures at centre, laterally with weak ridges parallel to the lateral margin, and round umbilicate punctures near the antero-lateral angles. Pubescence thin, long, erect at the centre, strongly curved near the lateral margin, white. Very shiny, without discernible microsculpture.

Elytra – $2.22\times$ as long as wide at base; almost parallel-sided behind the humeral callosities to just beyond the middle, thence almost rectilinearly narrowing to the broadly rounded apex; lateral serrations medium-sized, acute, confined to the apical quarter. Epipleura with a broad, deep incision beneath the humeral callosity, not strongly widening behind the incision. Interstices slightly convex, each with a single row of small punctures, transversely rugose in lateral half; varying between $3-4\times$ width of striae punctures. Strial punctures arranged in regular rows almost to the base of the elytra, only becoming punctate-striate in apical half; striae punctures small, round. Pubescence thin, long, erect, white. Scutellar area not depressed; basal margin not raised.

Underside – anterior margin of prosternum strongly concave, with a well marked marginal groove. Prosternal process moderately densely punctured with fine, simple punctures; pro-episternum (hypomeron) with large ovate, umbilicate punctures, enclosing large flat central granules and small setae bearing punctures near the rim;

metathorax and metacoxae densely covered with small, round, umbilicate punctures; abdominal sternites 1-4 densely punctured with large, elongate, lunate punctures, laterally, and very fine, sparse, simple punctures, centrally; apical sternite densely punctured with elongate, umbilicate punctures over the entire surface. Clothed with moderately long, thin, white pubescence.

Hind coxa with a concave distal margin, lacking an angular process near the outer edge. Tibiae moderately long, slightly widening at apex, fore tibia not serrate. Tarsal segments 1-4 with well developed ventral pads, which become progressively larger. Tarsal claws with a large blunt tooth in the basal half.

Ovipositor tubular, $4.20\times$ as long as width of the broadened apical part.

♂ unknown.

Comparison. *A. ruahaensis* sp. n. keys to couplet 42 (45) of Holm's key to *Acmaeodera* s. str. (Holm, 1978). The following species, which have been examined, also come out at couplet 42: *A. signata* Castelnau & Gory, *A. abyssinica* Kerremans (holotype), *A. luteopicta* Fähræus, *A. louwi* Holm, *A. stictithorax* Obenberger (holotype) and *A. chaetosoma* Obenberger (holotype). Holm (1978) doubted that the latter two species were from the Ethiopian region, but in our opinion they do come from this region. *A. ruahaensis* is most closely related to *A. chaetosoma*. Both species have very sparse, fine puncturation at the centre of the pronotum, which is widest at the basal angles and has very reduced latero-basal pits; very long pubescence; similar body shape; absence of marked dorsal inflection, and absence of a frontal median depression or line. *A. stictithorax* is closely related to *A. luteopicta* and there appear to be no significant structural differences between the two species based on the limited amount of material available; the main difference being the reduced yellow elytral markings in the holotype of *A. stictithorax* in comparison with specimens of *A. luteopicta* examined; however this may not be significant since the holotype of *A. luteopicta* figured by Holm also has reduced elytral markings. Only examination of more material will resolve the problem of the relationship of these two species.

The following key will distinguish as far as is possible, given the limited amount of material available, all the above mentioned species.

1. Pronotum widest very close to the hind angles, puncturation at centre very fine and sparse,

- latero-basal pits very small and not surrounded by a distinct depression; elytra strongly narrowing at apex 2
- Pronotum widest at or in front of the basal third, puncturation at centre moderately dense to dense, latero-basal pits at least a little larger and slightly depressed or surrounded by a distinct depression; elytra much less strongly narrowing at apex 3
2. Pronotum strongly narrowing in apical two-thirds; pubescence of pronotum and elytra white; pronotum with a large elongate yellow macula on either side at the basal angle; elytra with numerous small yellow maculae (Fig. 4) *A. ruahaensis* sp. n.
- Pronotum only strongly narrowing in the apical third; pubescence of pronotum and elytra a mixture of brown and white hairs; pronotum and elytra entirely black *A. chaetosoma* Obenberger
3. Strial punctures of elytra very large and deep, as wide as the interstices near the suture and much wider than most of the interstices on the rest of the elytra; pronotal puncturation not forming concentric ridges laterally; punctures of underside, except on the proepisternum, deep and round, not umbilicate or lunate .. *A. holmi* sp. n.
- Strial punctures smaller and less deep, only one-quarter to onethird the width of the interstices near the suture and rarely as wide as the interstices elsewhere; pronotal puncturation at least partly forming concentric ridges laterally; puncturation of the whole of the underside umbilicate or lunate 4
4. Elytral interstices 1 and 2 with only a single row of punctures 5
- Elytral interstices 1 and 2 with two rows of punctures, at least in the basal quarter 6
5. Pubescence of upperside entirely white; pronotum and elytra regularly convex in transverse cross-section; Namibia *A. louwi* Holm
- Pubescence of upperside a mixture of white and brown hairs; pronotum and elytra flattened at centre in transverse crosssection; E.Cape Province *A. signata signata* Castelnau & Gory
6. Pubescence of upperside entirely white; pronotum without a median yellow macula, the lateral margin broadly yellow for its entire length; Ethiopia *A. abyssinica* Kerremans
- Pubescence of upperside a mixture of white and brown hairs or almost entirely ginger hair; pronotum with a median yellow macula, which if small the lateral yellow mark also small 7
7. Pronotum almost flat at the base, the basal margin not upturned *A. luteopicta* Fähræus & *A. stictithorax* Obenberger
- Pronotum depressed in front of the basal margin which is strongly upturned *A. signata keniensis* Théry & *A. signata gaerdesi* Descarpentries

***Acmaeodera (Acmaeotethya) bjornstadi* sp. n.**
(Fig. 5)

Holotype. ♂, Tanzania, Ruaha N.P., 5 km S. of Msembe, 7.V.1972, 563, A. Bjornstad, In *Commiphora*

ugogensis woodland, On flowers of *Vernonia aemulans*. In The Natural History Museum, London.

Paratypes. 1 ♀, same data as holotype, in Bjornstad coll.; 1 unsexed, Tanzania, Ruaha N.P., Msmbe, 820 m, 16.II.1972, 1497, A. Bjornstad, in Levey coll.

Description. Length 9.0 – 10.0 mm. Colour violet to blue-green. Pubescence fine, mainly white, but ginger on the elytra.

Head – vertex convex without a median groove or line; $2.82\times$ ($2.50-3.05$; $n = 2$) as wide as transverse diameter of eye; $1.115\times$ ($1.11-1.12$; $n = 2$) as wide as front above antennal depressions; covered with umbilicate punctures. Pubescence thin, moderately long, erect, white. Epistome broad, convex, with a fairly deep supra-epistomal depression, a very slight median incision, and slightly upturned lower rim. Supra-antennal tubercles moderately developed, unpunctured, but with obvious microsculpture. Eyes strongly convex and slightly protruding.

Antennae – $1.60\times$ as long as vertical diameter of eye; serrate from 4th segment; 2nd segment slightly longer than wide; 3rd segment slightly longer than 2nd, strongly widened at apex; 4th triangular, slightly wider than long; 5th-10th segments $1.5-2.0\times$ as wide as long; 11th ovate.

Pronotum – weakly convex; latero-basal punctures small and inconspicuous, not surrounded by a depression; pre-scutellar puncture small, surrounded by a moderately deep elongate depression, merging with a shallow, narrow, median groove; lateral carina complete, sharp, visible for its entire length from above; widest just in front of middle; weakly curved behind the middle to basal angles; strongly curved from widest point to anterior angles; $1.66\times$ ($1.60-1.72$; $n = 2$) as wide at base as long. Anterior margin strongly bisinuate with a well marked angulate median lobe, and a well defined border; posterior margin weakly bisinuate. Sculpture consisting of well separated, round, semi-umbilicate punctures, enclosing setae bearing pits at the centre; laterally composed of sinuate ridges parallel to the lateral margin, enclosing umbilicate punctures containing setae bearing pits. Pubescence thin, moderately long, forwardly directed, white near the lateral margin, mainly ginger at centre.

Elytra – $2.23\times$ ($2.14-2.33$; $n = 3$) as long as wide at base; parallel-sided over the humeral callosities, thence narrowing for a short distance, before widening to just beyond the middle, then narrowing to the broadly

rounded apex; lateral margin coarsely and sparsely toothed in the apical third. Epipleura with a broad moderately deep incision beneath the humeral callosity, strongly widening for a short distance behind the incision. Moderately densely, confusedly punctured and transversely rugose in the basal fifth; punctured striae only developed in apical half; interstices where developed, subequal, convex, 4-5× width of striae punctures, with two irregular rows of small punctures and transverse rugae. Pubescence thin, moderately long, erect, mainly white laterally and ginger on disk.

Underside – anterior margin of prosternum slightly concave, with a well marked marginal groove. Prosternal process moderately densely punctured with small, round punctures. Pro-episternum (hypomeron) with well separated, large, ovate, umbilicate punctures, enclosing large flat central granules and small setae bearing punctures near the rim. Metathorax and metacoxae densely punctured with smaller, round, umbilicate punctures, and ridges laterally. Abdominal sternites 1-4 with large, elongate, umbilicate punctures laterally, the rims tending to coalesce to form ridges parallel to the lateral margin; near the centre the punctures become progressively smaller and lunate; 5th sternite with elongate and round umbilicate punctures over the whole surface. Clothed with thin, moderately long, erect, white pubescence.

Hind coxa with a straight distal margin, lacking an angular process near the outer edge. All tibiae short, flattened and strongly widening apically; fore tibiae with weak, rounded teeth on the outer edge. Tarsal segments 1-4 with well developed ventral pads, which become progressively larger. Tarsal claws with a large blunt tooth in the basal half.

Aedeagus as in Figs 11 and 12.

Ovipositor tubular, 4.81× as long as width of the broadened apical part.

Etymology. This species is named after Anders Bjornstad, the collector of this species and *A. ruahaensis* sp. n.

Comparison. *A. bjornstadi* sp. n. keys to couplet 12 (13) of Holm's key to *Acmaeodera* s. str. (Holm, 1978). It shares with *A. lugubrina* Boheman and *A. virgo* Boheman the serrate fore tibia of these species. It differs from *A. lugubrina* in being violet-blue-green in colour, not black; in the elytral pubescence being mainly ginger, not white; in the form of the aedeagus and in its geographical distribution. It differs from *A. virgo* in colour and in lacking elytral fasciae and in the form of the aedeagus. These three species also belong to the subgenus *Acmaeotethya*.

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