

# Studies in Afrotropical Cleomenini (Coleoptera, Cerambycidae, Cerambycinae). IV. Revision of the genus *Brachysarthron* Thomson, 1864

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The Afrotropical genus *Brachysarthron* Thomson, 1864 is revised. *B. bicoloripes* Aurivillius, 1925 is reduced to a subspecies of *B. antennatum* Thomson, 1864, *B. antennatum* ssp. *bicoloripes* Aurivillius, 1925 **stat. nov.** A lectotype is designated for *B. inerme* Aurivillius, 1925 from the original series of syntypes. Images of all taxa are published for the first time, and a generic key is provided.

Key words: Coleoptera, Cerambycidae, *Brachysarthron*, *B. antennatum* ssp. *bicoloripes* **stat. nov.**, tropical Africa.

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## Introduction

The first part of the headline in this publication series has been titled “Studies in Afrotropical Sestyrini”. The African genera in this group have formerly been referred to the tribe Cleomenini Lacordaire, 1868. Bousquet et al. (2009) synonymized Cleomenini with Sestyrini Lacordaire, 1868, and therefore this was used in the preceding publications (Bjørnstad 2013a, b, c). Dan Heffern, one of the co-authors of the Bousquet- publication has kindly informed me that the synonymization was based on incomplete knowledge of the underlying publication history and advised that prevailing usage should be given priority until this taxonomic confusion is solved (Heffern 2014 pers.comm.). The prevailing usage for the African genera is Cleomenini Lacordaire, 1868. The forthcoming papers in this series will therefore be published under the heading “Studies in Afrotropical Cleomenini”.

Thomson (1864) described the genus *Brachysarthron*. He placed this genus in his

“Callichromitæ Veræ”. Lacordaire (1868) separated the genera with closed mesocoxal cavities (‘cavités cotyloïdes intermédiaires closes’) from this group and erected Cleomenides Lacordaire, 1868. The genus *Brachysarthron* was subsequently transferred to this group (Lacordaire 1869 : 105).

Thomson (1864) described *Brachysarthron antennatum* Thomson, 1864 from ‘Senegambia’ and designated it as the type species of the genus. It should be noted that when Lacordaire (1869) made his redescription of Thomson’s genus and species he made several mistakes: one minor thing is that he made an orthographical lapsus in treating it as “*Brachyarthron antennatus* J.Thoms.” More serious is that he describes the elytra as “arrondi en arriere”, when in fact each elytron apically is armed with a sharp tooth. This mistake in fact made Aurivillius (1925 : 488) doubt if Lacordaire really had examined the species.

In the same work Aurivillius described *B. bicoloripes* Aurivillius, 1925 (from Gabon) and *B. inerme* Aurivillius, 1925 (from Angola). However,

since then nothing has been published on this genus, and none of the species has ever been illustrated. The aim of this paper is to shed some light on this little known genus. A generic key to the species and subspecies of *Brachysarthron* is provided (Table 1).

**Material and methods**

The major museums in Europe and Africa have been contacted, and they kindly have made their material of *Brachysarthron* available for the present study. However, not many museums actually have representatives of this genus in their collections.

**Collections acronyms.** IRSNB = Institut royal des Sciences Naturelles de Belgique, Brussels, Belgium; MNHN = Museum National d’Histoire Naturelle, Paris, France; MRAC = Musee royal de l’Afrique centrale, Tervuren, Belgium; NHM = Natural History Museum, London, U.K.; NRM = Swedish Museum of Natural History, Stockholm, Sweden

**Redescription of the genus *Brachysarthron* Thomson, 1864**

*Head.* Mandibles with a broad hairy base and a short, glabrous weakly hooked apex. Frons transversally almost flat or only very weakly convex. Eyes finely faceted, sinuately excavate with a small and short, narrow superior lobe, and a large suborbicular to slightly oval inferior lobe. Vertex punctate to rugose.

*Antennas.* Relatively slender, reaching well beyond elytra apices in males; female antennas slightly shorter. Scapus relatively long and straight, finely rugose-punctate. 4<sup>th</sup> segment always considerably shorter than the 5<sup>th</sup>.

Antennomeres 6–10 gradually shortened, ultimate joint terete with an obtuse apex.

*Pronotum.* Variable in shape, but always slightly longer than wide. Disc glabrous or hairy.

*Scutellum.* Triangular, without tomentum.

*Elytra.* Long and narrow, more or less parallel-sided or weakly convex in apical halves. Apices toothed or rounded.

*Legs.* Relatively long and slender, especially the last pair of legs. All femora with a slender basal part abruptly widened into an apical, smooth and shiny, acarinate club. The metafemora very long: its apex reaching to, or almost to the elytral apices. Tibiae almost straight, gradually widened apically, acarinate. Tarsi relatively long; in metatarsi the 1<sup>st</sup> joint twice as long as the 2<sup>nd</sup>.

*Ventral surface.* Prosternal process widened apically and touching the proepimeron, i.e. procoxal cavities closed. Also mesocoxal cavities are closed (tribal character).

*Sexual dimorphism.* The sex-related variation in external characters in the genus is small. Males have antennas slightly longer than females, and their pronota slightly wider. In the males the elytra are laterally more or less parallel, while in females the sides of the apical halves are slightly convex.

**Redescription of the species**

***Brachysarthron antennatum* ssp. *antennatum* Thomson, 1864 (Figure 1)**

*Brachysarthron antennatum* Thomson, 1864: 180

*Brachyarthron antennatus* [sic! wrong spelling] Lacordaire, 1869: 105

**Examined specimens.** *Holotype* ♂Th. TYPE/ Senegamb/*Antennatum* Thoms. Type/Ex Musæo James Thomson/Museum Paris 1952. Coll. R. Oberthür/TYPE (red label) in Coll. MNHN. *Other*

**TABLE 1.** Key to the species and subspecies of *Brachysathron* Thomsen, 1864 (modified and simplified after Aurivillius 1925)

1.	Elytra apices rounded. Pronotal disc with two hair stripes, mat .....	<i>B. inermis</i>
-	Elytra apices acute. Pronotal disc glabrous and shiny .....	2
2.	Legs and antennas black, elytra dark blue .....	<i>B. antennatum</i> ssp. <i>antennatum</i>
-	Legs and antennas black and yellow, elytra mostly green .....	<i>B. antennatum</i> ssp. <i>bicoloripes</i>



**FIGURE 1.** *Brachysarthron antennatum* ssp. *antennatum* Thomson, 1864 ♂ 12.7 mm (ABS). Photo: K. Sund (NHM, Oslo)

*material.* 1♂ Senegambia *Brachysarthron* Th. coll. *guineensis* Chv./*Brachysarthron antennatum* Thoms./Bowr.Chevr. 63.47in Coll. NHM (Figure 1); 1♀ Guinea/ *guineensis* Chev. in Coll. NHM 1♀ Bowr.Chevr. 63.47. in Coll. NHM; 1♂ 1♀ [no locality] coll. Lacordaire/*Brachysarthron antennatum* Th. d. Aurivillius 1918 in Coll. IRSNB

*Length.* 8.4–11.7 mm

*Head.* Black. Mandibles with a broad hairy base and a short, glabrous weakly hooked apex. Frons irregularly punctate/rugose transversally flat or weakly convex with or without a faint median fissure. Vertex punctate to irregularly rugose in anterior part, but increasingly transversally folded in posterior part towards occiput.

*Antennas.* Black. Antennomeres 2–5 apically with a few (3–10 on each joint) slightly curved setae on their ventral side; antennomeres 6–11 very

finely pubescent. Most joints widened apically, joints 8–10 in addition slightly compressed, thus forming a small apical tooth. Scapus long and straight, finely rugose-punctate with a rounded apex. 2<sup>nd</sup> antennomere short, about one third the length of scapus. The 3<sup>rd</sup> joint very long: more than four times the 2<sup>nd</sup> and 2.5 times the 4<sup>th</sup>. The 5<sup>th</sup> antennomere again long, almost as long as the 3<sup>rd</sup>. From then onwards gradually shorter. Last joint terete.

*Pronotum.* Black, glabrous, slightly longer than wide (length/width ratio c. 1.2), shallowly punctate, but with wide, smooth areas in between giving the pronotum a lustrous appearance. Laterally and dorsally, the pronotum is very strongly convex, looking almost globular.

*Scutellum.* Black, sharply triangular without tomentum, but with raised edges, and with a very fine granulate or honeycomb microstructure.

*Elytra.* Long and narrow: the individual elytron about eight times as long as wide. Combined the elytra are almost parallel-sided in males, more strongly widened in apical half in females, with just a very weak constriction in front of middle. Basal part of elytra with a “hump” on the sutural side adjacent to the scutellum. Shoulders rounded. Further, the elytra are practically without hairs, but with a few (5–10) spinelike bristles along lateral margin in apical part. Elytra dark steel blue with a shallow, widely spaced punctation. The areas in between with a very fine microstructure, but elytra still appear lustrous. Each elytron ends in a sharp sutural tooth.

*Legs.* Brownish black with a smooth, shiny surface. Femora glabrous and very long, especially the metafemora: their apices reaching to the tip of the elytra. All femora with a slender pedunculate basal part, abruptly widened apically into an acarinate club. Tibiae straight, setose.

*Ventral surface.* Gula with a smooth and shiny posterior part, anterior two thirds irregularly rugose. Prosternum black with a transversally wrinkled, but glabrous anterior part; the posterior part punctate with short, silvery tomentum. Metasternum and the abdominal sternites dark reddish brown, finely punctate; the metasternum practically glabrous, abdominal sternites with a few scattered long ciliae and laterally with a short

silvery tomentum. Last sternite apically with long, erect yellowish bristles.

**Distribution.** “Senegambia”, Guinea-Bissau

***Brachysarthron antennatum* ssp. *bicoloripes* (Aurivillius, 1925) stat.nov.** (Figure 2)

*Brachysarthron bicoloripes* Aurivillius, 1925: 488

**Examined specimens.** *Holotype.* ♂ **TYPE** GABON. W.Africa. Moquerys/Frank R. Mason Collection/519 [in red]/*bicoloripes* Auriv. type!/5594E92+/ [NHRS-JLKB000021045] in Coll. NRM. *Other material.* 1♂ Gaboon/Staudinger/5593E93+/[NHRS-JLKB000021046] in Coll NRM; 1♂ [CENTRAL AFR. REP.?] Bimbu [prob. Bimbo in SW-CAR] 28-11-[19]23/*Brachysarthron bicoloripes* Auriv. ex coll. Collart/Determination Chr. Aurivillius 1927 in Coll. IRSNB (Figure 2).

*Length.* 11.2–13.0 mm.

*Head.* Like nominal subspecies.

*Antennas.* Similar to nominal subspecies, but with stronger apical teeth on antennomeres 5–10. Most joints are uniformly black, but normally antennomeres 5–7 (in one specimen only number 6) bichromatic with a proximal yellow or yellowish red part and a black distal part.

*Pronotum and scutellum.* As in nominal subspecies.

*Legs.* In all three pairs of legs the slender pedunculate part of femora is yellow, only the distal clavate part black (femora uniformly black or brownish black in nominal ssp.). The pro- and mesotibiae are black, but metatibia largely yellow except for a small proximal part adjacent to the femoral club (all tibiae black in ssp. *antennatum*).

*Elytra.* The elytra of ssp. *bicoloripes* are bichromatic green and blue: the major part of each elytron is metallic and lustrous green, but bordered by blue both marginally and suturally. Apically very dark blue to almost black. For comparison, the elytra of ssp. *antennatum* are uniformly dark steel blue (‘obscure chalybea’ fide Thomson 1864). In addition, the elytral apical teeth are stronger and often bent inwards (weaker and straight in nominal ssp.).

*Ventral surface.* Like nominal subspecies.

**Distribution.** ?Central African Republic, Gabon.



**FIGURE 2.** *Brachysarthron antennatum* ssp. *bicoloripes* Aurivillius, 1925 **stat. nov.** ♂ 13.0 mm (IRSNB) Photo: K. Sund (NHM, Oslo).

***Brachysarthron inerme* Aurivillius, 1925 (Figure 3)**

*Brachysarthron inerme* Aurivillius, 1925: 489

**Examined specimens.** *Lectotype* ♂ ANGOLA, Bailundo/**Type**/*inermis* Auriv./5596 92 / [NHRS-JLKB000021043] in Coll. NRM *Paralectotype* ♂ Angola, Bailundo/5595 E92 + [NHRS-JLKB000021044] in Coll. NRM. *Other material.* 1♀ [ZIMBABWE] S. Rhodesia. Christon Bank 28/12/75 A.J.Duke/ *Cordylomera* sp? Det. R. Mourglia 1987/ Coll. Mus-Tervuren



**FIGURE 3.** *Brachysarthron inerme* Aurivillius, 1925 ♀ 9.8 mm (MRAC). Photo: K. Sund (NHM, Oslo).

don V. Allard/*Brachysarthron inerme* Auriv. in Coll. MRAC (Figure 3); 1♀ Musee du Congo. [R.D.Congo: Katanga Prov.] Kapiri XII-1912 Miss.Agric./73/R. det. ... 1356/*Brachysarthron inerme* Aur.ab. in Coll. MRAC

*Length.* 9.5–12 mm.

*Head.* Black. Frons laterally bordered by prominent and curved carinae running from antennal socket to upper part of cheeks. Vertex faintly rugose.

*Antennas.* Antennas reaching slightly beyond elytra apices in the ♀. (None of the two known males has complete antennas; in the females, antennomere 10 reaches the elytra apices, in the males this appears already in antennomere 8). Antennomeres 2–11 finely pubescent, but with only very few setae (1–3 on each joint).

All antennomeres black or antennomeres 5–10 red with black apices. In the males, the 2<sup>nd</sup> joint is about one third of the scapus, while the 3<sup>rd</sup> joint is considerably longer than scapus. Joint 4 is only two thirds of scapus and joint 5 is twice as long as joint 4. Joint 6 is the longest joint. In the females, the 2<sup>nd</sup> joint is about one quarter the length of scapus. The 3<sup>rd</sup> joint as long as scapus and nearly twice as long as the following. The 5<sup>th</sup> antennomere the longest: 2.5 times the length of the 4<sup>th</sup>. Antennomeres 6–11 gradually shorter. Ultimate joint terete and curved.

*Pronotum.* Black, slightly longer than wide, laterally with an irregular outline, disc punctate to reticulate (“honey-combed”) and with two distinct longitudinal hairlines of adpressed, silvery tomentum.

*Scutellum.* Narrowly triangular with rounded sides. Glabrous, but with a fine microstructure.

*Elytra.* Elytra acostate, dark blue, each elytron 6–7 times as long as wide with rounded shoulders. Scattered long cilia-like hairs on basal quarter, otherwise more or less glabrous. Elytra apices rounded.

*Legs.* All black or black and red. All femora abruptly clavate near apex, metafemora very long with a black or red basal part and an acarinate clublike apex.

*Ventral surface.* Gula with a smooth and shiny posterior part, anterior two thirds irregularly rugose. Prosternum dark reddish brown with a transversally wrinkled, but glabrous anterior part; the posterior part punctate with short, silvery tomentum. The prosternal process widened into a very broad triangular apex. Metasternum and the abdominal sternites dark reddish brown, finely punctate; the metasternum practically glabrous, but abdominal sternites with short silvery tomentum all over. Metasternal process ligulate with its distal end bent inwards (upwards) so as to be partly hidden by the anterior part of the metasternum. Last sternite apically with long, erect yellowish bristles.

**Distribution.** Zambia, Zimbabwe, Angola.

**Differential characters.** *B. inerme* differs from *B. antennatum* in the characters stated in the generic key (see above). Further *B. inerme* has a more narrow frons due to the inferior eye lobes

being more close together than in *B. antennatum*. The lateral edges of the frons in *B. inerme* with a raised and curved carina; no such in *B. antennatum*. *B. inerme* has fewer curved setae on antennomeres 2-5 and lacks the elytral basal “humps” adjacent to the scutellum that is present in *B. antennatum*. The long cilia-like hairs on the elytra present in *B. inerme*, is absent from *B. antennatum*.

## Discussion

Aurivillius (1925: 488) pointed out the superficial similarity between *Brachysarthron* and members of certain Callichromatini genera like *Euporus* and *Promecidus*. In these genera however, the 4<sup>th</sup> and 5<sup>th</sup> antennomeres are of about the same length while the species of *Brachysarthron* has its 4<sup>th</sup> joint less than half the length of the 5<sup>th</sup>.

## Ecology and geographical distribution

Although geographically covering a large area, few specimens exist in collections. The two species appear widely disjunct with *B. antennatum* occurring from “Senegambia” to Gabon while *B. inerme* only is known south of the Congo River Basin from Angola, through southeastern part of RDC (Katanga) and into Zimbabwe. *B. antennatum*, with its two subspecies ssp. *antennatum* (West Africa) and ssp. *bicoloripes* (Central Africa), thus is found within the Guineo-Congolian rain forest regime. *B. inerme* is an inhabitant of the miombo (*Brachystegia-Julbernardia*) woodlands of the “Zambeian regional centre of endemism” (White 1983). Nothing is known about the biology of the species.

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