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Cordister prodigiosus: a peculiar new genus and species of clown beetles (Coleoptera: Histeridae: Exosternini) from Cameroon

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Vienna P., Simon-Pražák J., Baňař P., & Lackner, T. 2025: *Cordister prodigiosus*: a peculiar new genus and species of clown beetles (Coleoptera: Histeridae: Exosternini) from Cameroon. *Acta Musei Moraviae, Scientie biologicae* **110(1–2):** 47–57. – A new genus and species of histerid beetle is described from Cameroon: *Cordister prodigiosus* Vienna, Simon-Pražák, Lackner & Baňař gen. et sp. nov. Seven specimens of this rare species were collected using flight interception traps in Mt. Cameroon National Park, Cameroon, Africa. The species is characterised by small size and uniquely shaped and deep elytral striation.

Keywords. Exosternini, new genus, new species, Afrotropical Region

Introduction

The tribe Exosternini was erected by Bickhardt (1917) to include all members of the Histerinae subfamily with medially projected anterior margin of mesoventrite. This simple tribal definition has undergone several revisions (e.g. Mazur 1990); yet no explicit and unambiguous definition of the tribe has been published so far. On the African continent (including Madagascar) there are thirty genera hitherto reported: *Caenolister* Bickhardt, 1921, *Pseudister* Bickhardt, 1917, *Anaglymma* Lewis, 1894, *Macrosternus* Marseul, 1853, *Hypobletus* Schmidt, 1896, *Corticalinus* Gomy, 2004, *Platybletes* Thérond, 1952, *Therobletes* Vienna, 2017, *Cylindrolister* Bickhardt, 1921, *Apobletodes* Desbordes, 1919, *Monoplius* Lacordaire, 1854, *Coelocraera* Marseul, 1857, *Pelorurus* Lacordaire, 1854, *Coproxenus* Lewis, 1897, *Epitoxus* Lewis, 1900, *Probolosternus* Lewis, 1900, *Aspidolister* Bickhardt, 1920, *Adelopygus* Desbordes, 1917, *Exosternus* Lewis, 1902, *Xenosternus* Bickhardt, 1911, *Iarina* Yélamos, 1996, *Acrolister* Bickhardt, 1917, *Platysomatinus* Mazur, 1972, *Pachycraerus* Marseul, 1854, *Grammopeplus* Bickhardt, 1911, *Chalcurgus* Kolbe, 1897, *Catacraerus* Bickhardt, 1920, *Dolicholister* Bickhardt, 1917, *Cylistostoma* Lewis, 1905, and *Paratropus* Gerstaecker, 1867. Several of them have been partially or fully revised (or at least keyed) in the 20th century: *Monoplius* (Péringuey 1901); *Coelocraera* and *Coproxenus* (Dégallier 1983); *Epitoxus*

(Yélamos 1997); *Pachycraerus* (Desbordes 1917); *Xenosternus* (Desbordes 1924); and *Paratropus* (Kanaar 1997; 2004). On the whole, Desbordes (1922) produced an up-to-date determination key and catalogue of the tribe from African continent. Regarding the phylogeny of the tribe, Caterino & Tishechkin (2015) published a very detailed study based on the morphology and molecular data, albeit focusing on the New World taxa; while including several African species as in-and-out groups as well. Their results point to non-monophyly of the Exosternini tribe, with Old World genera intermingled as a grade subtending all New World genera, with a few Old World genera (i.e. *Paratropus* or *Coelocraera*) appearing more closely related to Haeteriinae (+*Yarmister* Wenzel) clade (Caterino & Tishechkin 2015).

The aim of this contribution is, however, not to decipher the higher phylogeny of the Old World (mostly African) genera, but to describe one more, morphologically distinct Exosternini genus from Cameroon. Our results are presented below.

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Material and methods

All specimens used in this study were collected using flight interception traps in the tropical forest on the eastern slope of Mount Cameroon during the project "*The biodiversity of soil and litter–dwelling arthropods along an elevational gradient of Mt. Cameroon, with a special focus on Coleoptera and Heteroptera*" managed by Petr Baňař together with University of Buea, Cameroon. Detailed methodology of FIT installation and collecting was published by Hlaváč *et al.* (2023).

External images were taken with a Canon EOS 6D in combination with a Canon MP-E65 1–5× macro lens; final images were composed from stacked photographs using Helicon Focus 7.0. and post-processed in Adobe Photoshop 2020. Female terminalia were photographed under Olympus SZH10 microscope using a Canon 1200D camera, stored in Euparal on separate plastic label. Body part terminology follows Ôhara (1994), Kanaar (1997), Lackner (2010) and Bichevoy (2022). Nomenclature is used according to Mazur (2011).

Label data are cited verbatim, with slashes (/) separating lines of text. The comments of the authors are in square brackets. All labels of the studied material are printed. All type specimens were provided with the following red printed label: HOLOTYPE or PARATYPE, *Cordister prodigiosus* sp. nov., Vienna, Simon-Pražák, Lackner & Baňař des. 2025.

Acronyms of collections

MMBC . . . . . Moravian Museum, Brno, Czechia
PCJSP . . . . . private collection of Jan Simon-Pražák, Hradec Králové, Czechia
PCPV . . . . . private collection of Pierpaolo Vienna, Venice, Italy
PCTL . . . . . private collection of Tomáš Lackner, Munich, Germany

T a x o n o m y

Cordister gen. nov.

urn:lsid:zoobank.org:act:60AFCD61-B2D1-4F71-AEE2-30A312D2EDA8

Type species: *Cordister prodigiosus* **sp. nov.**

Description. Body short and robust, strongly dorsally convex; colour light brown, cuticle matt.

Head with a complete frontal stria. Almost no angle between frons and epistoma present. Epistoma short; labrum flattened, concave anteriorly, with transverse rugosity. Antennae short, club well-developed, sutures almost invisible.

Thorax. Pronotum with lateral and marginal striae, disc with alutaceous microsculpture, sparsely punctate. Elytral epipleural stria double, subhumeral stria complete, crenate, continuous along elytral apex, linked with complete sutural elytral stria. Dorsal elytral striae I–V present; striae II–IV deeply impressed, with elevated margin. Striae I and II connected to marginal stria along elytral apex. Scutellar disc small, somewhat elongated. Prosternal lobe with marginal stria, anterior margin slightly medially emarginate. Prosternal keel with both sets of striae. Mesoventrite pointed medio-apically; marginal stria present, crenate; meso-metaventral stria in form of large punctures. Metaventrite depressed medially; basally with large sparse deep punctures, becoming much finer apically. Lateral metaventral stria present, strongly crenate, curved outwardly. Legs very short, tibiae and femora strongly expanded. Protibiae with straight tarsal grooves.

Abdomen. First visible abdominal ventrite bistriate laterally, apically with a row of deep large elongate punctures; disc otherwise smooth. Propygidium and pygidium sparsely and finely punctate; interspaces with alutaceous microsculpture.

Male genitalia very similar to those of *Paratropus*: thin, strongly apically narrowing aedeagus with ventrally curved apical third, eighth tergite deeply inwardly emarginate basally, small sclerites present at either side of the eight sternite. These sclerites are round, unlike in *Paratropus*, where they are elongate.

Differential diagnosis. The new genus occupies a unique place among the Exosternini. It demonstrates vague affinity to *Paratropus* with which it shares several characters: frontal stria, which is complete even in its vertical portion, shape and striation of the mesoventrite, shape of legs and aedeagus. It differs, however, in the lack of angulation between the forehead and epistoma (which is typical of many species of *Paratropus*), in the very remarkable shape and marking of the dorsal striae, the striation of the ventral region, the armature of the protibiae, and the punctation of the pronotum. The genus is similar in some characters to *Epitoxus, Coelocraera* and *Coproxenus*. From the genus *Epitoxus*, it differs primarily in the absence of basal pronotal sculpture, in the width of the femora and tibiae, as well as in their external armature. From the genera *Coelocrera* and *Coproxenus*, it differs in the lack of frontal concavity. From all the aforementioned genera, this new genus stands out especially by its very peculiar and bizarre elytral striation found in no other known African Exosternini.

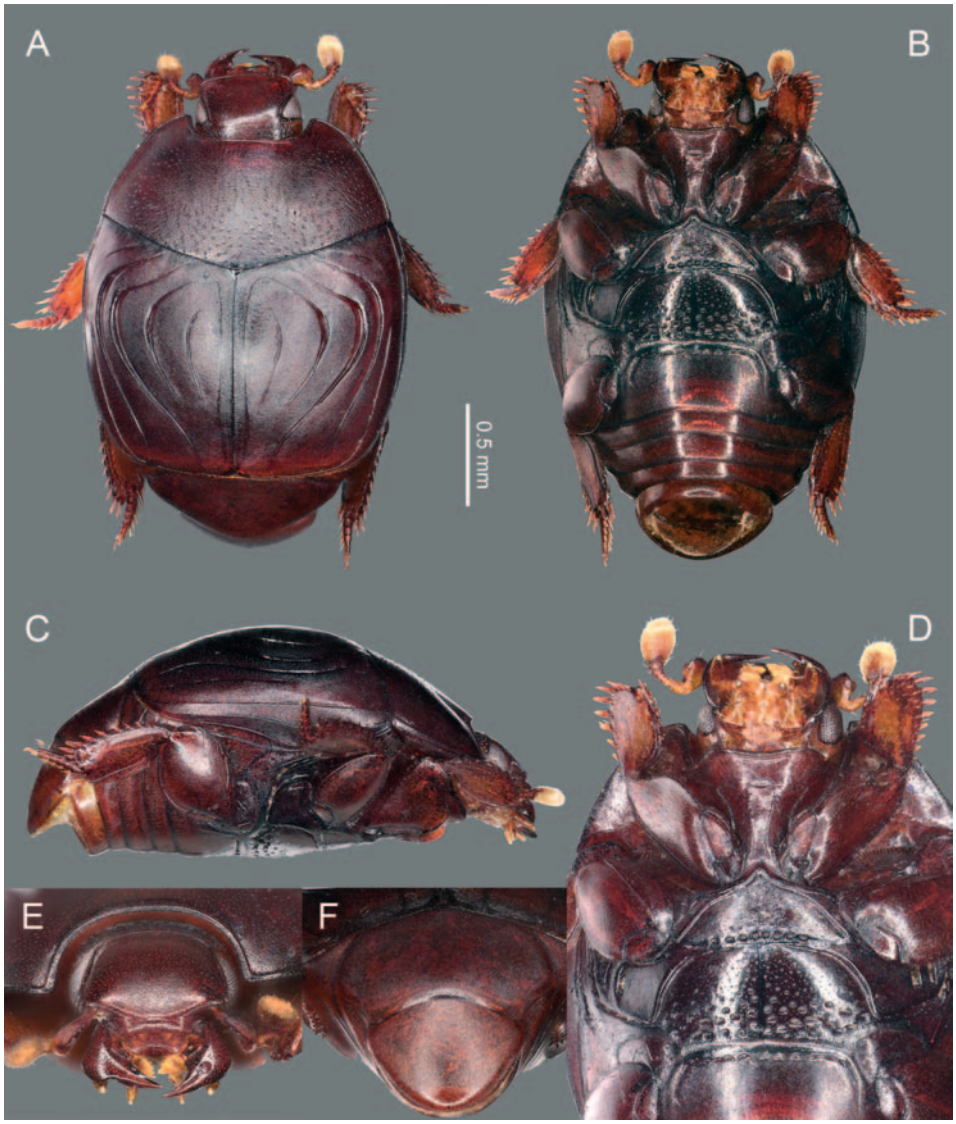

Fig. 1. *Cordister prodigiosus* gen. et sp. nov.: A – dorsal view; B – ventral view; C – lateral view; D – thorax, ventral view; E – head; F – propygidium and pygidium.

Etymology. The name refers to the unique shaping of dorsal elytral striae, which, as a whole, appear to form a series of nearly concentric hearts.

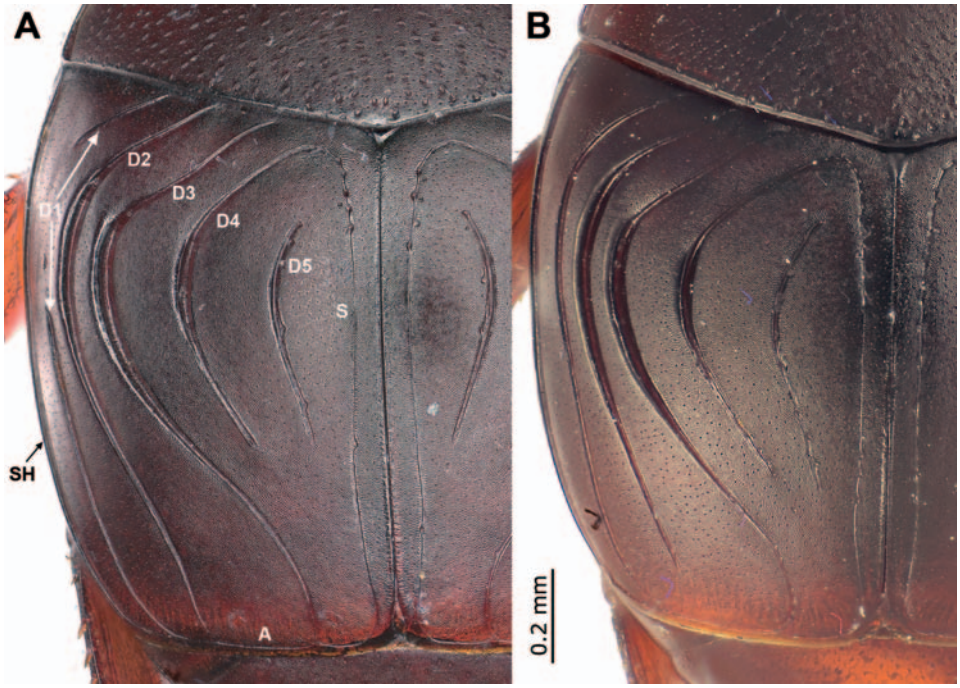

Fig. 2. *Cordister prodigiosus* gen. et sp. nov., elytron: A – specimen with an interrupted first dorsal stria; B – specimen with complete first dorsal stria. SH – subhumeral stria; D1–5 – elytral dorsal stria 1–5; S – sutural stria.

Cordister prodigiosus sp. nov.

urn:lsid:zoobank.org:act:5C678AF6-A6A8-45AA-AEF8-B427283EA0A8

Type material. Holotype: ♂: "FIT_006_3_IX / CAMEROON CMR FIT 006/3 / Mt. Cameroon NP BAMBOO / CAMP, 24.xi.2023–20.i.2024, 310m / N04°05′10.1″E009°02′59.6″ / FIT P. Baňař & F. L. Ewome lgt." (MMBC). **Paratypes (6)**: ♀: CAMEROON CMR FIT ECO 005 / Mt.Cameroon NP Dink Gari / 5.xii. 2021–4.i.2022, 635 m FIT / N04°05′58.4″ E009°03′46.5″ / P. Baňař & F. L. Ewome lgt.; ♂: FIT_006_1_III / Cameroon CMR FIT 006/1 / Mt.Cameroon NP Bamboo / Camp. 7 1.18.iii 2023 300 m / N04°05′22.7″ E009°03′06.7″ / FIT P. Baňař & F. L. Ewome lgt. (PCPV); 2♂ + 1 spec.: FIT_006_3_IX / CAMEROON CMR FIT 006/3 / Mt. Cameroon NP BAMBOO / CAMP, 24.xi.2023–20.i. 2024, 310m / N04°05′10.1″ E009°02′59.6″ / FIT P.Baňař & F.L.Ewome lgt (PCTL, PCJSP, MMBC) [♂ at MMBC as dissected specimen on glass].

Description. *Measurements of holotype* (in mm): Head width – 0.46; width between anterior pronotal angles – 0.6; pronotum maximum width – 1.47; pronotum median length – 0.56; pronotum maximum length – 0.64; width across elytra – 1.53; maximum length of elytron – 1.58; sutural length of elytron – 1.27.

Body short and robust; convex dorsally. Dorsal cuticle dark brown to black, somewhat opaque due to alutaceous cuticular microsculpture.

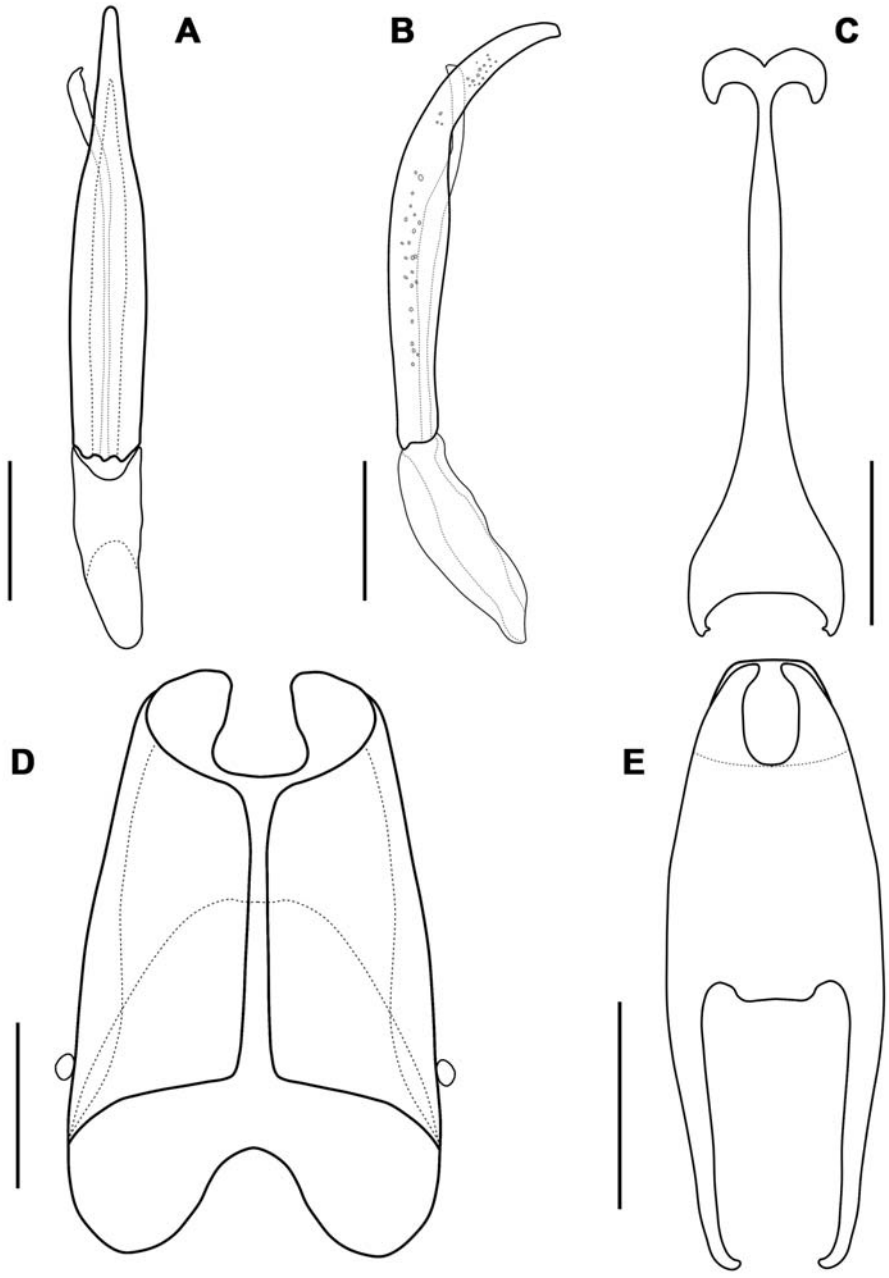

Fig. 3. *Cordister prodigiosus* gen. et sp. nov., male genitalia: A – aedeagus dorsal view; B – aedeagus lateral view; C – ninth sternite (spiculum gastrale), ventral view; D – eighth sternite and tergite, ventral view; E – ninth and tenth tergite, ventral view. Scale = 0,2 mm.

Head. Frons flat, sparsely and finely punctate, punctures separated by several times their diameter, apical third slightly depressed, interspaces among punctures here with alutaceous microsculpture. Frontal, lateral and occipital striae complete, slightly to strongly carinate. Epistoma very short, approximately three times as broad as long, laterally with depressions almost on the same plane as frons (not angulary connected); its dorsal structure similar to that of anterior third of frons. Labrum short, with deep antero-median concavity; disc longitudinally strigulate. Mandibles delicately punctated; crenate laterally; apex of mandibles acute; sub-apical tooth triangular, sharp. Maxilla typical for the subfamily (ÔHARA 1994), palpi somewhat thickened; lacinia without uncus; labrum glabrous. Antennal scape thickened, with several microscopic setae, antennal club with a thick and short yellow pubescence and several longer prominent setae.

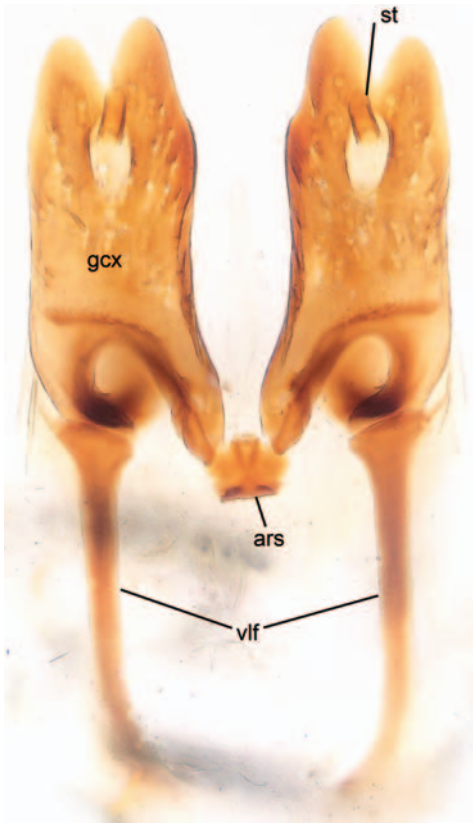

Fig. 4. *Cordister prodigiosus* gen. et sp. nov., female genitalia. *ars* – articulating sclerite, *gcx* – gonocoxite; *st* – stylus; *vlf* – valvifer.

Thorax. Pronotal disc almost entirely (except for a small area in the anterior part) opaque due to alutaceous microscupture; punctation consisting of two types of punctures: tiny punctures, separated by 3–4 times their diameter regularly dispersed on entire pronotal disc and larger, elongate punctures growing in size on posterior half. Marginal pronotal stria complete; lateral pronotal stria complete laterally, crenate. Basal pronotal margin obtusely angulate. Scutellar disc small. Elytral disc opaque due to dense alutaceous microsculpture. Dorsal elytral striae: subhumeral elytral stria complete, continues as almost complete apical elytral stria. Humeral elytral stria absent or fused with subhumeral elytral one. Dorsal stria I complete, sometimes interrupted in anterior third (Fig. 2A). Striae II+III similar (Fig. 1A, 2) originating at elytral base, strongly curved medio-laterally, where deeply impressed and strongly crenate, continuous into the apical elytral stria. Dorsal elytral stria IV similar to second and third, basally linked with complete, if somewhat weakened sutural elytral stria, which is linked to apical elytral stria. Dorsal elytral stria V present as a deep median fragment, shortened on both ends.

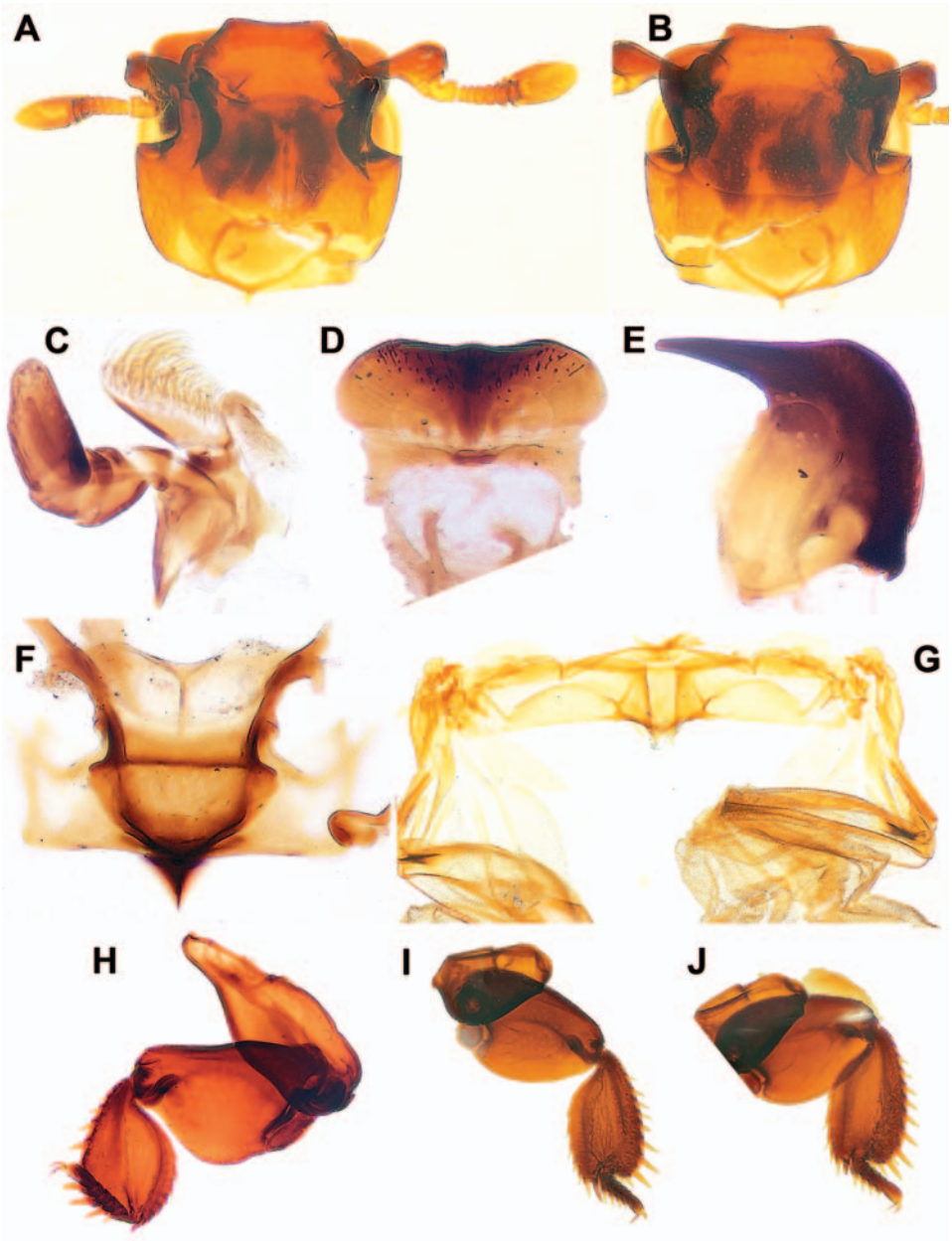

Fig. 5. *Cordister prodigiosus* gen. et sp. nov., morphology: A – head ventral view; B – head dorsal view; C – maxilla dorsal view; D – labrum dorsal view; E – mandible; F – scutellum; G – metanotum; H – front leg; I – middle leg; J – hind leg.

Sutural elytral stria basally with four prominent punctures. Prosternal lobe wide, slightly anteriorly emarginate medially; marginal prosternal stria present. Carinal prosternal striae fine, diverging basally and apically, apically marked by a short transverse stria. Lateral prosternal striae carinate, widely divergent anteriorly. Prosternal process almost impunctate, only with alutaceous microsculpture. Mesoventrite acutely angulate anteriorly, with scattered punctures medio-basally, marginal mesoventral stria present, carinate. Disc of mesoventrite otherwise smooth; meso-metaventral stria present in form of a string of deep large punctures. Disc of metaventrite shallowly depressed medially in females (in males flat), with several rows of large irregular deep punctures becoming finer and sparser apically; punctures intermingled with fine sparse microscopic punctures. Lateral metaventral stria strongly carinate; outwardly curved laterally.

Legs. All tibiae and femora strongly dilated, opaque and with delicate punctation. Protibia with a straight protarsal groove and ten denticles along outer margin, becoming gradually smaller basally and apically. Protibial spur present, short. Meso- and metatibiae with denticles along outer margin, similar to protibia; a row of short setae present along inner margin.

Abdomen. First visible abdominal ventrite opaque, bistriate laterally; along basal margin an intermittent stria consisting of shallow elongate punctures present. Postmetacoxal striae absent. Propygidium and pygidium both covered with scattered fine punctures; interspaces with alutaceous microsculpture. Propygidium laterally with a thin stria.

Male genitalia (Fig. 3). Eighth sternite medially separated with small sclerites present at either side; eighth tergite deeply inwardly emarginate basally; ninth tergite rather thin, with long, thin basal apodemes, deeply inwardly emarginate apically. Ninth sternite (spiculum gastrale) dilated basally, apex double-hook-shaped. Aedeagus thin, strongly narrowing apically; apical third curved ventrad. Gonopore ventral, tegmen fused almost along its entire length.

Female genitalia (Fig. 4)**.** Gonocoxite (*gcx*) scoop-like, widely emarginate apically; stylus (*st*) short, articulating sclerite (*ars*) rather small, subtrapezoid, strongly sclerotised basally and medially. Valvifers (*vlf*) thin, dilated and thickened on both ends.

Biology. Unknown; all specimens were collected using flight interception traps.

Remarks. Similar type of elytral striation is found in myrmecophilous taxa (e.g., *Iridoprinus* Lackner & Leschen, 2017).

Etymology. The specific name *prodigiosus* (from Latin) refers to extraordinary and unique appearance of the taxon.

Discussion

When trying to place the newly erected *Cordister* into the only available, albeit rather dated key to African Exosternini by Desbordes (1922) the taxon keys out near *Coelocraera*. However, Desbordes did not include the species-rich Old World genus *Paratropus* in his key and it is this taxon that our new genus resembles the most.

The present work demonstrates the need for further research of the highly diverse Exosternini tribe in tropical Africa where much of the diversity remains undescribed. A revision of the African genera is highly needed and should be accompanied by a comprehensive phylogenetic analysis for a better understanding of relationships within the tribe.

Flight interception traps are again shown to be an effective method for collecting Histeridae in tropical forests. With rapid deforestation in tropical Africa (and indeed in other parts of the World), extensive sampling is needed to gain knowledge of the insect diversity of these habitats while they still exist.

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