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Engistanoxia sagala sp. nov. from Kenya (Coleoptera: Scarabaeidae: Melolonthinae: Melolonthini)

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Abstract. *Engistanoxia sagala* sp. nov. is described and figured from the Coast Province of Kenya. *Engistaanoxia dessertinneae* Lacroix, 2002 is redescribed and figured. Key to species of *Engistanoxia* Lacroix, 2002 is presented.

Key words. Coleoptera, Scarabaeoidea, Melolonthinae, Melolonthini, *Engistanoxia,* new species, key, Kenya, Afrotropical Region

Introduction

Members of the tribe Melolonthini are known from all biogeographical regions, with the majority of taxa being distributed in the Palaearctic and Oriental Regions. Afrotropical fauna is not rich and only 6 species belonging to 4 genera have been recorded from this region so far (Lacroix 2002, 2010). The melolonthine genus *Engistanoxia* Lacroix, 2002 was compared by its describer to the Afrotropical genera *Ramilia* Kolbe, 1894, *Cochliotodes* Burgeon, 1946 and *Hoplosternodes* Burgeon, 1946 (Lacroix 2002). *Engistanoxia* differs from *Ramilia* in having matte and costate elytra, prolonged clypeus, and coarsely and unevenly punctate pronotum. Both *Cochliotodes* and *Hoplosternodes* have bidentate protibiae, whereas *Engistanoxia* and *Ramilia* have tridentate protibiae. The type species, *E. dessertineae* Lacroix, 2002, is known from the Makueni county (the holotype and six paratypes from Kibwezi) and the Taita Taveta county (non-types from Voi) of Kenya. Kibwezi is ca. 150 km northwest of Voi. Adults were collected in November and December (Lacroix 2002). The genus *Engistanoxia* was subsequently only mentioned in Lacroix's (2010) catalogue, with illustrations taken from the original description.

Recently I had an opportunity to examine additional specimens of *Engistanoxia* from the Taita Taveta county of Kenya. Their comparison with hitherto known material and literature (Lacroix 2002, 2010) convinced me that they belong to a new species described below.

Material and methods

Specimens were examined with a Novex 64.210 zoom stereomicroscope 10–40×; measurements were taken with an ocular grid. Length was measured from the anterior margin of the clypeus to apices of the elytra. The habitus photographs were taken with a Canon MP-E 65mm/2.8 1–5× Macrolens on bellows attached to a Canon EOS 550D camera. Each photograph was taken as several partially focused images and afterwards composed in the Helicon Focus 3.20.2 Pro software.

The new species is provided with one red printed label: '*Engistanoxia sagala* sp. nov. / HOLOTYPUS [or PARATYPUS with type number] ♂ [or ♀ respectively] / det. Richard Sehnal, 2014'. Exact label data are cited for the material examined. Separate labels are indicated by a double slash [//], lines within each label are separated by a slash [/]. Information in quotes indicates the original spelling. Author's remarks and additional comments are placed in brackets: [p] – preceding data (in quotes) are printed; [h] – the same but handwritten. HT – holotype, PT – paratype.

The following acronyms identify collections housing the material examined (curator's name is in paretheses):

NMPC National Museum, Praha, Czech Republic (Jiří Hájek);
MBCO Michal Bednařík collection, Olomouc, Czech Republic;
MLCR Marc Lacroix collection, Romans sur Isère, France;
MNHN Museum national d'Histoire naturelle, Paris, France (Antoine Mantilleri);
RSCV Richard Sehnal collection, Velenice, Czech Republic.

Taxonomy

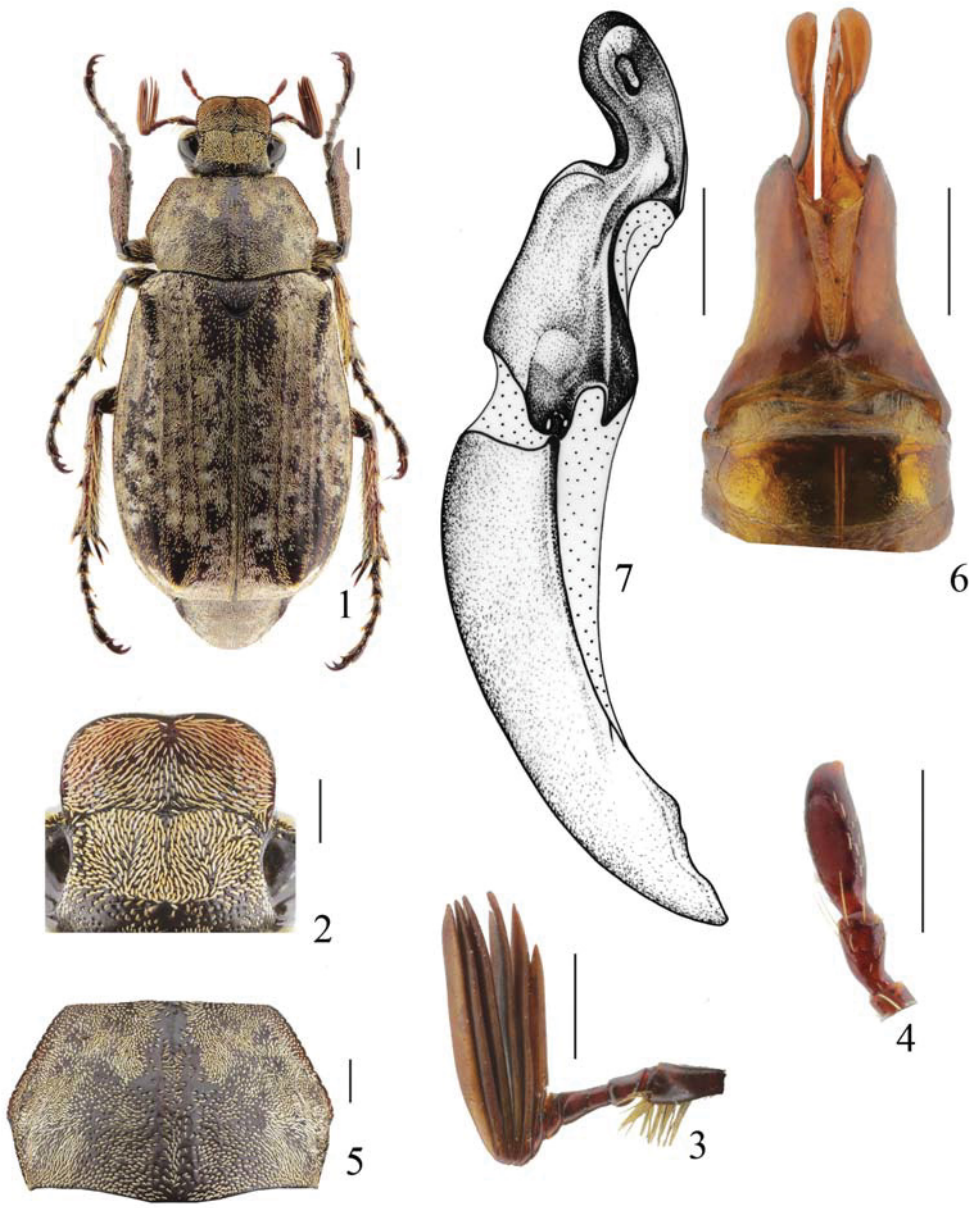
Engistanoxia sagala sp. nov.

(Figs 1–7)

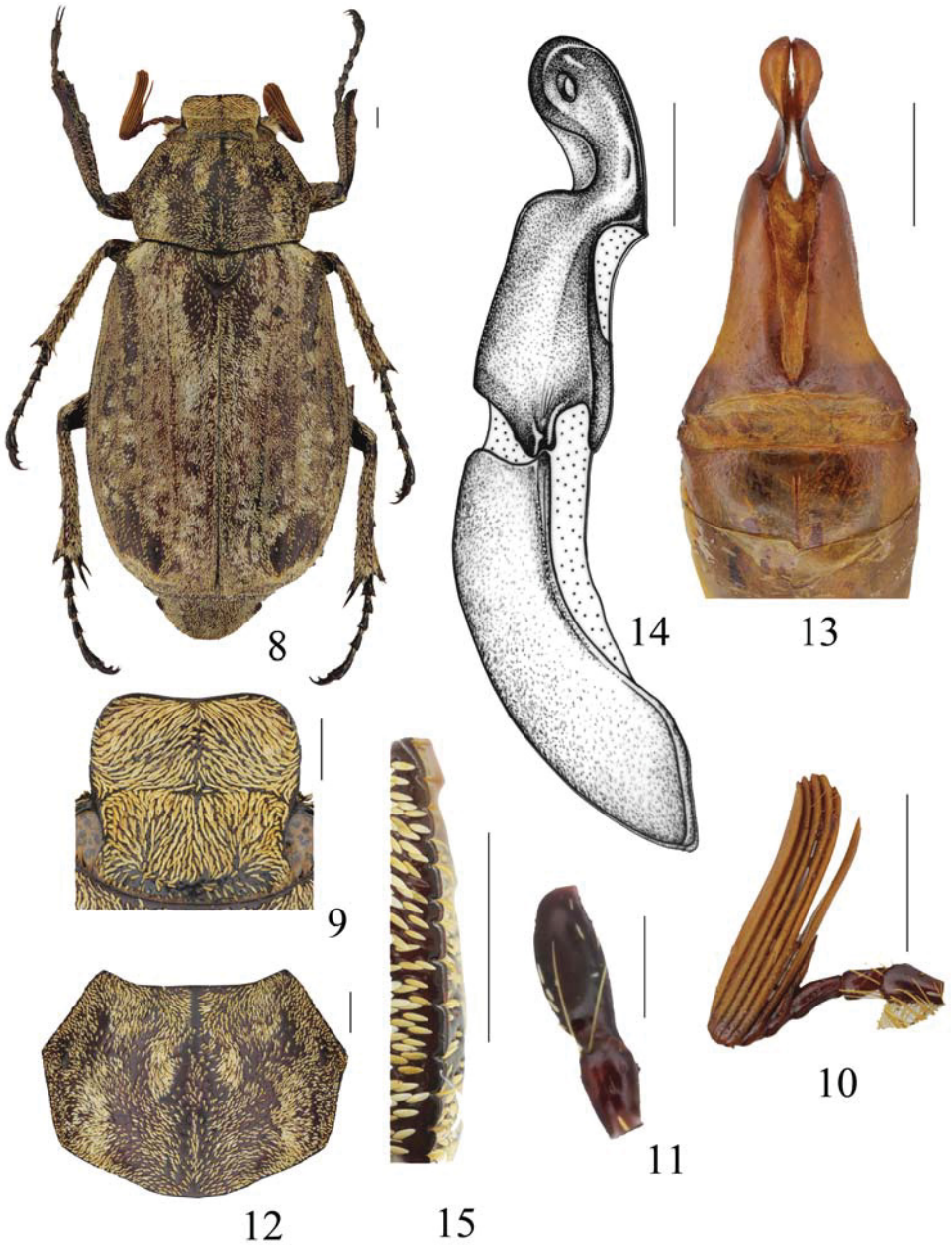
Type locality. Kenya, Taita Taveta county, Voi env., Sagala Hills.
Type material. Holotype: ♂, 'KENYA, Coast prov. [the earlier division of the country] / Voi env. & Sagala Hills / 23. XI. - 4. XII. 2000 / M. Bednařík leg. [p]' (NMPC). Paratypes: No. 1, ♀ and Nos 2–6 and No. 12, ♂♂, same data as holotype; Nos 7–11, ♂♂, 'KENYA, Coast prov. / Voi env. & Sagala Hills / 23. XI. - 4. XII. 2000 / Ivo Martinů leg. [p]'; Nos 13–14, ♂♂ and No. 15, ♀, 'KENYA XI-92 / near Voi, Sagala reg. / Werner leg. // Engistanoxia [bold] / dessertineae / M. Lacroix, 2002 / Coll. M. Lacroix [p]'. Paratypes Nos 1–10 in RSCV, No. 11 in MBCO, Nos 12–15 in MLCR.

Description. ***Male*** (holotype). Body length 23.2 mm (without pygidium). Body elongate, posteriorly slightly dilated. Dorsal surface and abdomen reddish brown, legs partly lighter, antennae pale brown, elytra pruinose (Fig. 1).

Head. Clypeus 2.19 times wider than long, with anterior angles broadly round and anterior margin strongly upturned and bisinuate; surface punctate, with smooth facets between punctures; posterolaterally oriented, pointed, semierect scale issues from centre of each puncture; some medial scales narrower than others, fronto-clypeal suture weakly indicated. Frons densely and coarsely punctate, with a scale issuing from each puncture; scales near midline point laterally toward a longitudinal bulge in each half of frons, forming a bisinuate pattern (Fig. 2). Labrum bilobed, anterior angles obtuse but distinct, macrosetae longest at edge of clypeus and around eye canthus. Genae rugo-punctate, with group of short macrosetae.



Figs 1–7. *Engistanoxia sagala* sp. nov., holotype male. 1 – habitus, dorsal view; 2 – head, dorsal view; 3 – antenna, dorsal view; 4 – maxillary palp, dorsolateral view; 5 – pronotum, dorsal view; 6 – aedeagus, dorsal view; 7 – aedeagus, lateral view. Scale 1 mm.



Figs 8–15. *Engistanoxia dessertineae* Lacroix, 2002, holotype male. 8 – habitus, dorsal view; 9 – head, dorsal view; 10 – antenna, dorsal view; 11 – maxillary palp, dorsolateral view; 12 – pronotum, dorsal view; 13 – aedeagus, dorsal view; 14 – aedeagus, lateral view, 15 – lateral margin of pronotum, dorsal view. Scale 1 mm.

Occiput deeply but sparsely punctate, with pointed scales oriented posteriorly. Eye canthus long, with macrosetae in two regular rows; anterior conical macrosetae long, posterior conical macrosetae five times shorter than clypeal scales. Antennae decamerous. Antennal club hexamerous, straight and 1.5 times longer than antennal shaft (antennomeres 1–4 combined). Antennal club on apex with irregular, fine, short macrosetae with sensilla pits. Antennomere 1 flat, ventrally with long setae, as long as antennomers II and III combined; antennomere 4 short, anteriorly pointed (Fig. 3). Terminal maxillary palpomere widest at midlength, apically truncate, with a terminal tubercle on inner, more angular side, and on dorsal surface with a large oval alutaceous area widening toward apex (Fig. 4).

Pronotum weekly convex, approximately heptagonal (Fig. 5), 1.7 times wider than long, widest in posterior third, with distinct impressed medial line. Anterior and posterior angles round but discernible. Lateral margins crenulate, with a yellow hook-shaped macroseta issuing from each crenulation. Surface densely punctate; punctures unevenly distributed, spaces between them smooth and matte; each puncture bearing pointed scale only about half as long as scales on clypeus and frons. Scales forming groups oriented mostly toward midline (Fig. 5).

Scutellar shield wider than long, triangular, evenly punctate in anterior half, with scales similar to those on pronotum (Fig. 5) and elytra, along midline with a strip of long, fine hairs.

Elytra convex, elytron 1.4 times longer than wide. Each elytron quadricostate (including sutural costa), costae reaching from humeral to terminal bulge, costae 2 and 4 somewhat shorter. Part of elytron between terminal bulge and apex short, steeply inclined. Crests of costae glabrous, their sides and intervals unevenly covered by punctures and scales similar to those on pronotum. Spaces between punctures and scales finely rugate and matte. Lateral margins with hairs twice as long as those on pronotal margins.

Macropterous.

Legs. All femora shiny, irregularly punctate, macrosetae long. Protibia tridentate, claws strongly curved, microrugate, each with a minute basal tooth and a much larger tooth at midlength. Meso- and metatibiae expanded apically, densely covered by broad macrosetae, spaces between individual macrosetae larger than diameter of macrosetae, with one oblique interrupted carina externally. Apical edge with a row of short, stout macrosetae of equal length, terminal calcars stout, long, lower calcar little shorter than upper; pro-, meso- and metatarsomeres without patches of short, dense macrosetae; metatarsomeres covered by isolated, sparse macrosetae ventrally; meso- and metatibiae shallowly puctate, fine long macrosetation recumbent.

Abdominal ventrites reddish brown, matte, finely punctate, covered by oval white scales and a row of semierect yellowish-white macrosetae. Pygidium slightly concave, shallowly punctate, with yellowish-white caudally oriented scales becoming toward posterior margin fine, short, yellowish-white macrosetae.

Male genitalia (Figs 6–7). Aedeagus symmetrical. Phallobase in lateral view with three extensions, ventrolaterally deeply excised. Parameres forming a symmetrical lobe with medial oval summit and an oval concavity in its centre. Dorsal part of lobe steeply elevated and then reclined at right angle ventral to base.

Female. Similar to male but has a shorter antennal club and wider and shorter protibia.

Variability. Males. Paratypes somewhat variable in body length (18.4–23.2 mm). Colour as in holotype.

Differential diagnosis. The habitus of *Engistanoxia sagala* sp. nov. is close to *E. dessertineae*, from which it differs in the pointed but not prolonged antennomere IV, size of the accessory tooth on tarsal claws, crenulate lateral margins of the pronotum, shape and pattern of scales on the head and pronotum, shape of the terminal maxillary palpomere and its pit, frontal margin of clypeus, bisinuate phallobase and shape of the parameres (Figs 6–7).
Etymology. The species epithet refers to the type locality, Sagala Hills in Kenya (Taita Taveta county), and the name is a noun in apposition.
Collection circumstaces. Adults were collected at light (M. Bednařík and I. Martinů, pers. comm.).

Engistanoxia dessertineae Lacroix, 2002

(Figs 8–14)

Engistanoxia dessertinae Lacroix, 2002: 159 (primary description); Lacroix (2010): 198 (redescription, catalogue).

Type locality. Kenya, Makueni county, Kibwezi.
Type material examined. Holotype: ♂ 'KENYA XII-93 / Kibwezi / Werner leg. [p] // HOLOTYPE [p, red label] // Engistanoxia / dessertinei n.sp [hw] / M. LACROIX det. 2002 [p] // Engistanoxia / dessertineae Lacroix, 2002 / M. Lacroix det. [p] // Engistanoxia / dessertineae [hw]' (MNHN).

Redescription. ***Male*** (holotype). Body length 25.0 mm (without pygidium). Body elongate, gradually widening posteriorly. Dorsal surface and abdomen reddish brown, legs partly darker to blackish brown, antennae pale brown, elytra pruinose (Fig. 8).

Head. Clypeus 2.3 times wider than long, on lateral margins strongly round and with anterior margin medially emarginate (Fig. 9). Spaces between scales on clypeus and frons amount at most to half width of macrosetae. Eye canthus long, with macrosetae in two irregular rows; anterior columnar macrosetae long, posterior columnar macrosetae half as short and half as many as anterior scales. Antennae decamerous. Antennal club hexamerous, anteriorly gently cambered, 1.7 times longer than antennal shaft (antennomeres 1–4 combined). Antennomere I cambered, at apex evenly rounded and with long setae, antennomere IV prolonged basally in lamela, reaching the first half of antennomere V. Apex of antennal club with evenly distributed fine hairs (Fig. 10). Terminal maxillary palpomere widest in two thirds, apically truncate and with a terminal tubercle on inner, more angular side, on dorsal surface with a large oval alutaceous area widening in two thirds of length (Fig. 11).

Pronotum weekly convex, approximately nonagonal (Fig. 12), 1.4 times wider than long, widest in front third, with distinct impressed medial line. Anterior and posterior angles round but discernible. Lateral margins of pronotum slim, strongly curved up, in sublateral view appearing smooth but crenulate, with a yellow hook-shaped macroseta issuing from each crenulation (Fig. 15). Surface densely punctate; punctures unevenly distributed, spaces between them smooth and matte; each puncture bearing pointed scale as long as scales on clypeus and frons. Scales forming groups oriented mostly toward midline.

Scutellar shield on periphery with round punctures which bear yellowish-white scales of same size; in basal corners group of densely packed round and prolonged macrosetae and fine hairs; center scaly, on sides with facets devoid of punctures and scales.

Elytra convex, elytron 2.6 times longer than wide. Crests of costae glabrous, their sides and intervals unevenly covered by punctures and scales similar to those on pronotum. Spaces between punctures and scales finely rugate and matte. Lateral margins with hairs twice as long as those on pronotal margins.

Macropterous.

Legs. All femora shiny, irregularly punctate, macrosetae long. Tibiae covered by conspicuous wide scales spaced at most at scale width. Inner tooth of pretarsus half the length of apical tooth. Meso- and metatibiae deeply punctate, macrosetae fine, long and errect.

Abdominal ventrites dark reddish brown, matte, finely punctate, covered by oval yellow scales and a row of semierect yellowish macrosetae. Pygidium slightly concave, shallowly punctate, with yellowish-white caudally oriented scales posteriorly grading into fine, long, compact yellowish-white macrosetae.

Male genitalia (Figs 13–14). Aedeagus symmetrical. Phallobase in lateral view with three extensions, ventrolaterally slightly excised. Parameres forming a symmetrical lobe with an open medial oval summit and an oval concavity in its center. Dorsal part of lobe steeply elevated and then reclined at angle ventral to base.

Key to males of *Engistanoxia* Lacroix, 2002

1 (2) Lateral margins of pronotum strongly upturned, appearing smooth but crenulate; posterior angles of pronotum broadly rounded; antennomere IV prolonged anteriad to midlength of antennal club, frontal margin of clypeus excised. .... ***E. dessertineae*** Lacroix, 2002

2 (1) Lateral margins of pronotum gently upturned, visibly crenulate; posterior angles of pronotum with distinct angle; antennomere IV pointed but not prolonged anteriad, frontal margin of clypeus weakly emarginate. ..... ***E. sagala*** **sp. nov.**

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