Description of a new species of *Trinodes* Dejean, 1821 from Ivory Coast (Coleoptera: Dermestidae: Trinodinae)

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Abstract. A new species *Trinodes tonkouiensis* sp. nov. (Coleoptera: Dermestidae: Trinodinae) from Ivory Coast (Mt. Tonkoui) is described, illustrated and compared with a similar species *Trinodes senegalensis* Pic, 1915. The new species differs in the structure of antennae and male genitalia.

INTRODUCTION

The genus *Trinodes* Dejean, 1821 is a small genus of Dermestidae (Coleoptera) recorded from the Palaearctic, Oriental and Afrotropical Regions (Herrmann & Háva 2013, Háva 2015, Háva 2019a; Háva 2019b) and contains 23 species (Háva 2020). There are six valid species of *Trinodes* currently described from the Afrotropical Region (Herrmann & Háva 2013, Háva 2015, Háva 2019b). The new species has morphological characters, described in this paper, that distinguish it from any other known Afrotropical *Trinodes*.

MATERIAL AND METHODS

The specimen of the new species was examined by relaxing in warm water, dissecting the abdomen and its inner contents. Genitalia is placed in a drop of dimethyl hydantoin formaldehyde (DMHF) resin and mounted on a card pinned under the specimen. Habitus photographs were taken with a Canon DSLR camera, Laowa 25-mm macro lens. All photographs were processed through focus stacking software, Helicon Focus and were later edited using GIMP. Photographs of *T. senegalensis* were made by 3D Microscope with Full HD Camera. The beginning and end of the label text are indicated using double quotes (""); a double slash (//) separates the data on different labels.

The following acronyms of morphological characters were used: AS - Antennal segment(s) (preceded by number increases from the antennal insertion to the tip of the last antennomere), BL - body length (pronotum length and elytral length), EL -elytral length (elytral suture from the scutellum to the posterior end of elytra), EW - maximum elytral width, PL -pronotal length, PW - maximum pronotal width. APW - anterior pronotal width. The program ImageJ was used to measure the holotype *Trinodes tonkouiensis* sp. nov., micrometre in eyepiece was used to measure *Trinodes senegalensis* Pic, 1915.

The following acronyms for institutions and collection are used in the present study:

ANHRT African Natural History Research Trust, Leominster, UK.
BMNH Natural History Museum, London, UK (formerly British Museum, Natural History).
JHAC Jiří Háva, Private Entomological Laboratory & Collection, Únětice u Prahy, Prague-west, Czech Republic.

TAXONOMY

Trinodes tonkouiensis sp. nov.

(Figs. 1-8)

Type material. Holotype(♂): "IVORY COAST, 1171m, Mt Tonkoui Peak, 07°27'15.2"N, 07°38'12.5"W, 1-8.XI.2015, // Malaise, Aristophanous, M., Moretto, P., Ruzzier, E., leg., BMNH(E) 2015-177 // NHMUK013800260", (BMNH). Additional label on red paper added: "*Trinodes tonkouiensis* sp. nov. Háva & Matsumoto det. 2020, HOLOTYPE ♂".

Description. Body: oval, dorsum convex. BL: 1.94 mm, EL: 1.35 mm, EW: 1.33 mm, PL: 0.45 mm, PW: 0.93 mm, APW: 0.56 mm. Colour: dorsal side brown; ventral side brown, tibia light brown, tarsal claws light brown.

Dorsum (Fig. 1). Head: partially retracted into pronotum; finely punctate, sparsely covered with short setae and very few long setae. Palpi: light brown. Eyes: large, with short micro-setae. Antennae (Fig. 4): 11 antennomeres, clavate; 1st and 2nd AS square shaped with rounded edges and as wide as 9th AS, 3rd to 8th AS thin and light brown, remaining AS brown, 9th AS oval, 10th AS wider than 9th AS,11th AS (Fig. 5) largest and oval covered with white setation. Pronotum: transverse, widest at posterior, narrowest at anterior, narrower than elytra; anterior margin slightly convex, posterior margin bi-concave; lateral margin nearly straight; surface covered with punctures, surface between punctures smooth; long erect setae emerging from the punctures; sublateral carina on each side broad and deep, sub-parallel to the lateral margin, extending from posterior end to the middle (Fig. 1). Scutellum: triangular, outer edge slightly convex, equal length on every side. Elytra: longer than wide; anterior gently convex; anterior lateral angle obtuse; lateral margins gently curved from anterior end to middle, increase in curvature from middle to the apex; surface covered with punctures, rest of the surface smooth; long erect setae emerging from the punctures; humeri with small distinct bump.

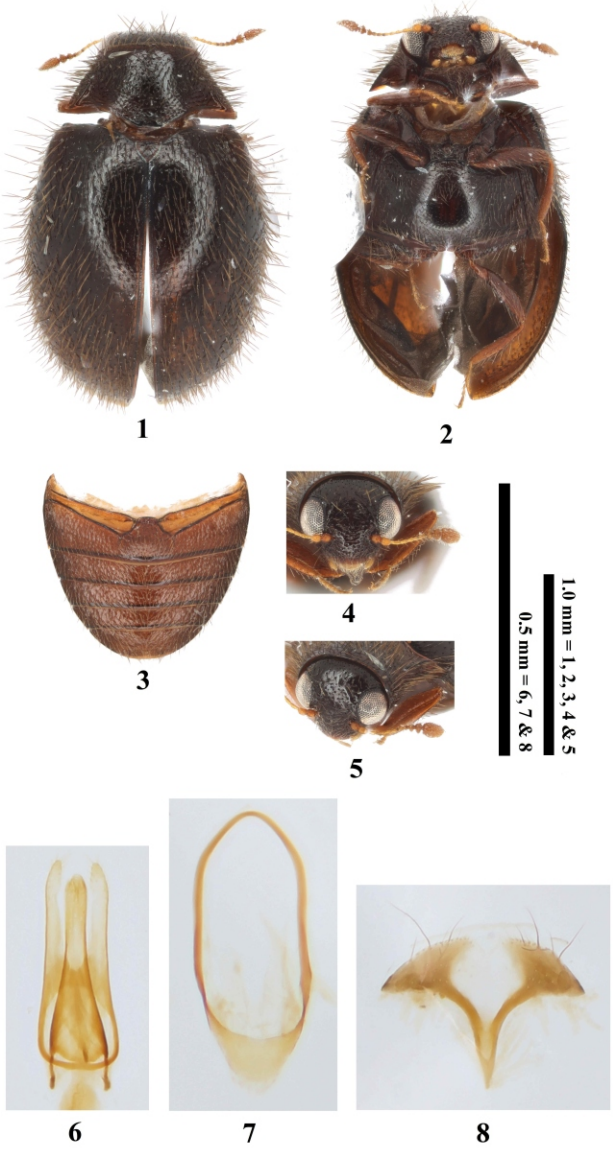
Venter (Fig. 2). Epipleura: sparsely punctured, with short setae. Prosternum: wider at anterior margin, narrowing towards the posterior one, T-shaped; punctures localised in the middle, recumbent setae localised in the middle. Mesosternum: wider than long; punctures present across surface; recumbent setae present across surface. Metasternum: wider than long; fine punctures spread across surface; long erect setae emerging from the punctures. Abdomen (Fig. 3): five clearly visible ventrites; fine punctures relatively densely spread across surface; long erect setae emerging from the punctures. Tegmen: Y-shaped, apical ends triangular with few long setae (Fig. 7). Sternite VIII: oval and hollow in the middle (Fig. 8).

Genitalia (Fig. 6). Parameres: 0.26 mm long, lateral ends relatively straight, width relatively consistent throughout apart from near apical end, longer than median lobe, broad, simple, apex rounded. Median lobe: 0.34 mm long, basal width 0.11 mm, widest at base, narrows towards middle, constant width from middle towards apex, apical end slightly rounded. Phallobase: nearly symmetrical, square shaped with rounded edges.

Female. Unknown.

Differential diagnosis. The new species belongs to the African group of *Trinodes* with the elytral setation not forming tufts (Háva 2019b), and is very similar to *Trinodes senegalensis* Pic, 1915, but differs from it in the following characters: 1) pronotum: *senegalensis*- broader anteriorly (1.60 mm); *tonkouiensis* - narrower anteriorly (0.56 mm); 2) male genitalia (Figs. 6, 13) - median lobe: *senegalensis*- 0.46 mm long, basal width 0.05 mm; tapered to the tip, reaching to

tip of parameres; *tonkouiensis*- 0.34 mm long, basal width 0.11 mm; not tapered to the tip, does not reach to the tip of parameres; 3) parameres: *senegalensis*- 0.47 mm long, lateral ends curved outwards, narrows from middle to apical end; *tonkouiensis*- 0.26 mm long, lateral ends relatively straight, width relatively consistent throughout apart from near apical end; 4) antennae: *senegalensis* (Fig. 12) - covered by yellow setation; *tonkouiensis* (Fig. 5) - covered by white setation.



Figs. 1-8. *Trinodes tonkouiensis* sp. nov., holotype: 1- dorsal habitus, 2- ventral habitus, 3- abdomen, 4- head frontal view, 5- antennae, 6- genitalia ventral view, 7- tegmen, 8- sternite VIII.

Distribution. *Trinodes tonkouiensis* sp. nov. is known only from the type locality (Figs. 9-11).

Figs. 9-11. Habitat photo of Mt. Tonkoui, Ivory Coast. Photo taken in 2016 and 2017.

Etymology. This species is named after the type locality.

***Trinodes senegalensis* Pic, 1915**

(Figs. 12-13)

Material examined: 1 ♂, 1 ♀ labelled: "Gambia: Kombo N Distr., Abuko Nature Res., 10.xi.1992, M. Söderlung lgt.", (JHAC).

Distribution. Gambia, Guinea Bissau and Senegal.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Figs. 12-13. *Trinodes senegalensis* Pic, 1915: 12- antenna, 13- genitalia ventral view.

THE AFROTROPICAL *TRINODES* SPECIES

Trinodes albohirsutus Kalík, 1965	Kenya, Tanzania
Trinodes caneparii Herrmann & Háva, 2013	Kenya, Tanzania
Trinodes chadensis Háva, 2019b	Chad
Trinodes congoanus Háva, 2019b	Congo
Trinodes schawalleri Háva, 2019b	Republic of South Africa: KwaZulu-Natal
Trinodes senegalensis Pic, 1915	Gambia, Guinea Bissau, Senegal
Trinodes tonkouiensis sp. nov.	Ivory Coast

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