

A contribution to knowledge of the „*Dermestes bicolor* species group“ (Coleoptera: Dermestidae: Dermestinae) with descriptions of two new species from Afrotropical Region

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Abstract. The new species *Dermestes (Dermestes) eraticus* sp. nov. from Namibia and Republic of South Africa and *Dermestes (Dermestes) brutus* sp. nov. from Madagascar are described, illustrated and compared. The species *Dermestes (Dermestes) wittei* Kalík, 1955, *Dermestes (Dermestes) voi* Háva, 2000, *Dermestes (Dermestes) semistriatus* Boheman, 1851 and *Dermestes (Dermestes) gerstaeckeri* Dalla Torre, 1911 belonging *Dermestes bicolor* species group are illustrated and keyed. The species *Dermestes (Dermestes) wittei* Kalík, 1955 is newly recorded from Ghana.

INTRODUCTION

The genus *Dermestes* Linnaeus, 1758 recently contain 89 species worldwide (Háva 2022). The *Dermestes bicolor* species group from nominotypical subgenus *Dermestes* s. str. Linnaeus, 1758 contain 19 species and subspecies worldwide, from Afrotropical Region are known 4 species (Háva 2015, 2022). The four species newly belongs to Afrotropical *Dermestes gerstaeckeri* subgroup. Two new species are described here from Namibia, Republic of South Africa and Madagascar. Status of one species is uncertain.

MATERIAL AND METHODS

The size of the beetles or of their body parts can be useful in species recognition and thus, the following measurements were made:

total length (TL) - linear distance from anterior margin of pronotum to apex of elytra.

elytral width (EW) - maximum linear transverse distance.

Specimens of the presently described species are provided with red, printed label with text as follows: „HOLOTYPE [or PARATYPE] *Dermestes (Dermestes) species name* sp. nov. Jiří Háva det. 2023”.

The mentioned material are deposited in:

JHAC Private Entomological Laboratory & Collection, Jiří Háva, Únětice u Prahy, Prague-West, Czech Republic;

AHEC Andreas Herrmann, private collection, Stade, Germany.

The terminology of first visible abdominal ventrite follows Háva & Kalík (2005), as in Fig. 1.

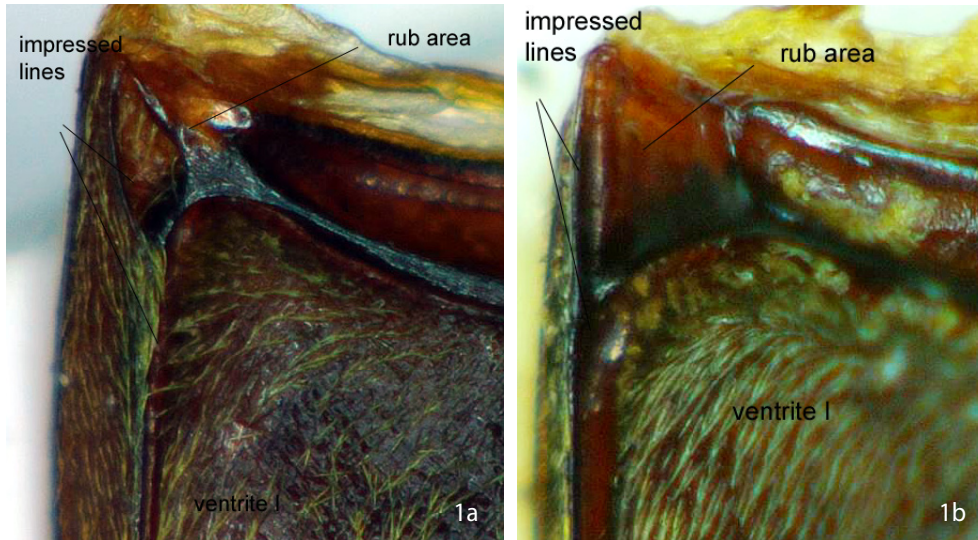


Fig. 1. Terminology of first visible abdominal ventrite: 1a- *bicolor* subgroup; 1b- *gerstaeckeri* subgroup.

RESULTS

Genus *Dermestes* Linnaeus, 1758

Dermestes bicolor group

Dermestes gerstaeckeri subgroup

Remarks. The species belonging to the Afrotropical subgroup are characterized by different very narrow structure of lateral depressions and large, flat rub area of the first visible abdominal ventrite (Fig. 1b).

Dermestes (Dermestes) gerstaeckeri Dalla Torre, 1911

(Figs. 2-7)

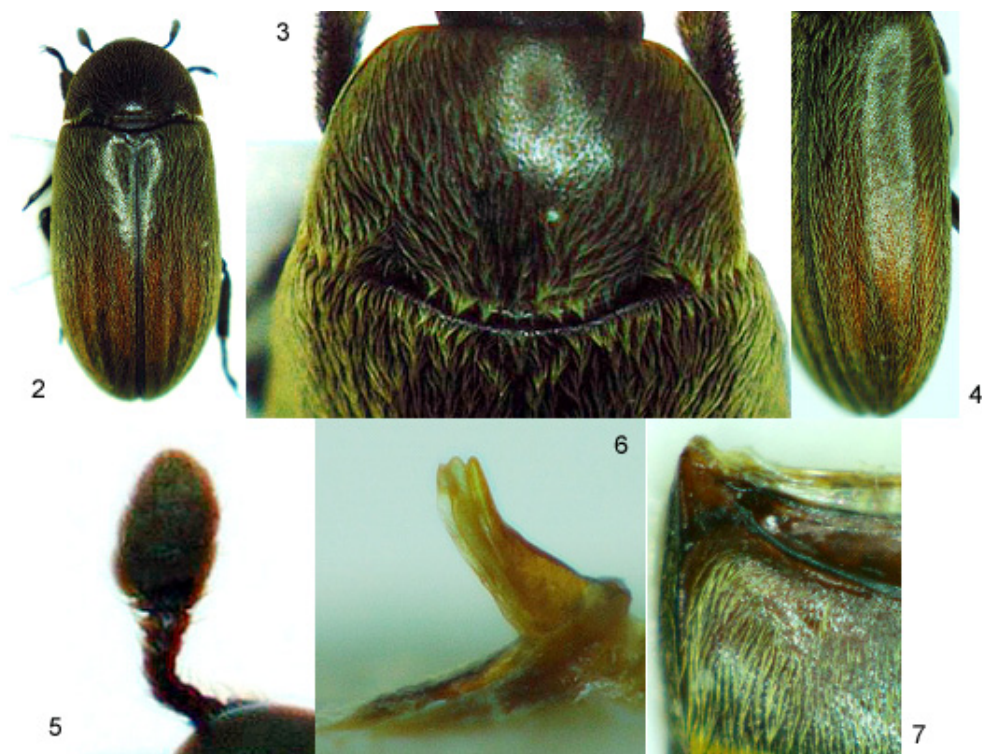
= *Dermestes gerstaeckeri* Dalla Torre, 1911: 44.

= *Dermestes subcostatus* Gerstäcker, 1884: 45 (homonym).

Material examined: 12 specimens from Ethiopia, Kenya, South Africa and Tanzania.

Notes. Species here illustrated (Figs. 2-7).

Distribution: Botswana (Háva & Herrmann 2017); Ethiopia (Háva 2003); Kenya (Kalík 1965, Mroczkowski 1968, Háva 2000b); Namibia (Háva et al. 2015); South Africa (Háva 2003, Háva et al. 2015); Tanzania (Kalík 1965, Mroczkowski 1968).



Figs. 2-7. *Dermestes gerstaeckeri* Dalla Torre, 1911: 2- habitus, dorsal aspect; 3- pronotum; 4- elytral setation; 5- antenna; 6- male genitalia; 7- lateral depressions and rub area of the first visible abdominal ventrite.

***Dermestes (Dermestes) erraticus* sp. nov.**

(Figs. 8-13)

Type material. Holotype (♂): Namibia, E Khomas reg., 106 km ESE Windhoek, Arnhem Cave & Lodge, 22°42' S 18°07' E, 10.xii.2011, S. Murzin lgt., (JHAC). Paratypes: (1 ♂): Namibia, Maltahohe, 1350 m, 24.84398S 16.972938E, 16-31.xii.2014, S. Murzin lgt., (JHAC); (1 ♂, 1 ♀): RSA, Northern Cape 70 km S Olifantshoek, Witsand NR, 1200 m, 4.-7.II.2012, leg. W. Schawaller, (AHEC).

Description of male. Body measurements (mm): TL 6.5, EW 3.1. Entire body brown, shine, elongated, slightly convex (Fig. 8). Head with long, yellow setation, punctation dense, maxillary and labial palpi dark brown. Antennae brown, with eleven antennomeres. The final three antennomeres form a short antennal club covered by yellow setae (Fig. 11). Pronotum more closely punctured and more densely setaceous than head. Pronotal disc moderately convex, with

long, yellow setation, hind margins of pronotum with long, yellow setae. Two small depressions near basal margin of pronotum. Scutellum triangular, covered in long, yellow setation. Elytra densely and strongly punctured; each elytron with 10 striae; posterior margin near epipleuron with long, dense, yellow setation; apices of elytra gradually rounded, with dense, short, yellow setation, other parts of elytra with dense, short yellow setation. Legs dark brown with yellow setation. Ventral part of body densely covered with yellow setation. Prosternum with long, yellow setation. All ventrites brown and with short, dense, yellow setation. First visible abdominal ventrite with distinct lateral depressions and rub area (Fig. 13). Ventrite IV with median tuft of yellow setae; ventrites II-IV with small latero-median depression. Male genitalia (Fig. 12).



Figs. 8-13. *Dermestes eraticus* sp. nov.: 8- habitus, dorsal aspect; 9- pronotum; 10- elytral setation; 11- antenna; 12- male genitalia; 13- lateral depressions and rub area of the first visible abdominal ventrite.

Female. Eternally similar to male. Ventrite IV without median tuft of yellow setae.

Differential diagnosis. The new species similar to *Dermestes gerstaeckeri* Dalla Torre, 1911 but differs from it by the following characters:

Dermestes gerstaeckeri Dalla Torre, 1911: elytra with setation forming longitudinal striae (Fig. 2); body oval, slightly shiny; male genitalia (Fig. 6); lateral depressions and rub area of the first visible abdominal ventrite (Fig. 7).

Dermestes eraticus sp. nov.: elytra without setation forming longitudinal striae (Fig. 8);

body elongated, parallel, shiny; male genitalia (Fig. 12); lateral depressions and rub area of the first visible abdominal ventrite (Fig. 13).

Etymology. From Latin *eraticus* (it means „excursive“).

Distribution: Namibia, Republic South Africa.

***Dermestes (Dermestes) semistriatus* Boheman, 1851**

(Figs. 14-19)

= *Dermestes semistriatus* Boheman, 1851: 583.

Material examined: 2 ♂♂, 8 ♀♀ from Benin, Botswana, Ethiopia, Mali, Namibia, South Africa, Tanzania and Zimbabwe.

Notes. Species here illustrated (Figs. 14-19).



Figs. 14-19. *Dermestes semistriatus* Boheman, 1851: 14- habitus, dorsal aspect; 15- pronotum; 16- elytral setation; 17- antenna; 18- male genitalia; 19- lateral depressions and rub area of the first visible abdominal ventrite.

Distribution: Benin (Háva 2004b); Botswana (Háva 2003); Congo (Háva 2003); Ethiopia (Háva et al. 2014); Mali (Háva & Herrmann 2019); Mozambique (Mroczkowski 1968); Namibia (Háva & Herrmann 2019); South Africa (Háva 2003); Tanzania (Háva & Herrmann 2010); Zimbabwe (Háva 2003).

***Dermestes (Dermestes) voi* Háva, 2000**

(Figs. 20-25)

= *Dermestes voi* Háva, 2000b: 162.

Material examined: holotype, 3 paratypes and 11 specimens from Ethiopia and Kenya.

Notes. Species here illustrated (Figs. 20-25).

Distribution: Ethiopia (Háva 2015a), Kenya (Háva 2000).



Figs. 20-25. *Dermestes voi* Háva, 2000b: 20- habitus, dorsal aspect; 21- pronotum; 22- elytral setation; 23- antenna; 24- male genitalia; 25- lateral depressions and rub area of the first visible abdominal ventrite.

***Dermestes (Dermestes) wittei* Kalík, 1955**

(Figs. 26-31)

= *Dermestes wittei* Kalík, 1955: 95.

= *Dermestes tanzanianus* Háva, 2000a: 367.

Material examined: holotype of *D. tanzanianus* and 30 specimens from Gambia, Mozambique, Namibia, Nigeria, Somalia, South Africa, Tanzania and Zimbabwe.

New record: „Ghana, Tafo, iv.1968, E. O. Boafo“, 1 ♀, J. Háva det., (JHAC).

Notes. Species here illustrated (Figs. 26-31).

Distribution: Congo (Kalík 1955, Mroczkowski 1968); Gambia (Háva 2003); Ghana (new record); Madagascar (Háva 2004a); Mozambique (Háva 2019); Namibia (Háva 2005, Háva et al. 2015); Nigeria (Háva & Herrmann 2009); Rwanda; Somalia [with Somaliland] (Háva 2003); South Africa (Háva 2003, Háva et al. 2015); Tanzania (Háva 2004b); Zimbabwe (Háva 2003).



Figs. 26-31. *Dermestes wittei* Kalík, 1955: 26- habitus, dorsal aspect; 27- pronotum; 28- elytral setation; 29- antenna; 30- male genitalia; 31- lateral depressions and rub area of the first visible abdominal ventrite.

***Dermestes (Dermestes) brutus* sp. nov.**

(Figs. 32-37)

= *Dermestes wittei*: Háva 2014: 85.

Type material. Holotype (♂): Madagascar, Ifaty, 20 km N Tulear, 30 m, 10-27.xii.2003, S. Murzin & A. Shamaev, lgt., (JHAC). Paratypes: (1 ♀): Madagascar, Mahajanga prov., Ankofia riv., Ambodimanga, 14-15.xi.1995, I. Jeniš lgt. / *Dermestes wittei*, (JHAC); (1 ♀): SW Madagascar, Toliatra prov., Tsimanampetsotsa N.P., 10 m, Mitoho camp, 12-13.i.2014, M. Trýzna leg., (JHAC).

Description of male. Body measurements (mm): TL 8.0, EW 3.5. Entire body brownish-black, elongated, slightly convex (Fig. 32). Head with short, brown setation, punctation dense, maxillary and labial palpi dark brown. Antennae dark brown, with eleven antennomeres. The final four antennomeres form a short antennal club covered by yellow setae (Fig. 35). Pronotum more closely punctured and more densely setaceous than head. Pronotal disc moderately convex, with short, brown setation, hind margins of pronotum with long, brown setae. Two small depressions near basal margin of pronotum. Scutellum triangular, covered in short, brown setation. Elytra densely and strongly punctured; each elytron with 10 striae; posterior margin near epipleuron with short, dense, brown setation; apices of elytra gradually rounded, with dense, short, brown setation, other parts of elytra with dense, short brown setation. Legs dark brown with yellow setation. Ventral part of body densely covered with yellow setation. Prosternum with long, yellow setation. All ventrites dark brown and with short, dense, yellow setation. First visible abdominal ventrite with distinct lateral depressions and rub area (Fig. 37). Ventrite IV with median tuft of yellow setae; ventrites II-IV with small latero-median depression. Male genitalia (Fig. 36).

Female. Externally similar to male, but abdominal ventrite IV is without setal tuft.

Differential diagnosis. The new species similar to mentioned species, but differs from them by the following characters:

- 1(4) elytra covered by brown setation
- 2(3) body length 8.0-8.4 mm; male genitalia (Fig. 36); lateral depressions and rub area of the first visible abdominal ventrite (Fig. 37) *Dermestes brutus* sp. nov.
- 3(2) body length 9.0-11.0 mm; male genitalia (Fig. 18); lateral depressions and rub area of the first visible abdominal ventrite (Fig. 19) *Dermestes semistriatus* Boheman, 1851
- 4(1) elytra covered by yellow setation
- 5(6) body length 7.0-8.0 mm; male genitalia (Fig. 30); lateral depressions and rub area of the first visible abdominal ventrite (Fig. 31) *Dermestes wittei* Kalík, 1955
- 6(5) body length 6.0-6.4 mm; male genitalia (Fig. 24); lateral depressions and rub area of the first visible abdominal ventrite (Fig. 25) *Dermestes voi* Háva, 2000

Etymology. From Latin *brutus* (it means „obtuse“).

Distribution: Madagascar.



Figs. 32-37. *Dermestes brutus* sp. nov.: 32- habitus, dorsal aspect; 33- pronotum; 34- elytral setation; 35- antenna; 36- male genitalia; 37- lateral depressions and rub area of the first visible abdominal ventrite.

***Dermestes (Dermestes) impressipennis* Pic, 1942**

= *Dermestes impressipennis* Pic, 1942: 9.

Original Pic's description. „Oblongus, free opacus, luteo pubescens, niger, abdomine rufu marginato, membrirufo-brunneis, clava antenarum rufa; capite thoraceque parum fortiter et dense punctatis, lilo sat breve, lateraliter subarcuato, supra 4 impresso; elytris sat brevibus, postice attenuatis, post basin transverse et fortiter impressis, dense et minute granulosis. L. 6 mill. Madagascar.“

Remarks. According to original description the species probably belong to the same *gerstaeckeri* subgroup. But for the definitely correct status of the species it is necessary to study of the holotype specimen.

Distribution: Madagascar.

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