

ARTIGO / ARTÍCULO / ARTICLE

Dermestidae (Coleoptera) from Sudan deposited in the Finnish Museum of Natural History, with description of a new species.

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Abstract: *Anthrenus (Anthrenus) linnavuorii* sp. nov. from Sudan is described, illustrated and compared with similar species *Anthrenus (Anthrenus) kubistai* Háva & Votruba, 2005 and *Anthrenus (Anthrenus) crustaceus* Reitter, 1881. The following species are newly recorded from Sudan: *Anthrenus (Anthrenodes) wittmeri* Mroczkowski, 1980, *Attagenus asmaranus* (Pic, 1942), *Attagenus iserlei* Háva & Kadej, 2008, *Attagenus katonai* Háva & Kadej, 2008, *Attagenus uniformis* Fairmaire in Fairmaire & Coquerel, 1860. A list of all species known from both Sudan and South Sudan is also presented.

Key words: Coleoptera, Dermestidae, Taxonomy, faunistics, new species, new records, Sudan.

Resumen: Dermestidae (Coleoptera) de Sudán depositados en el Museo de Historia Natural finlandés, con la descripción de una nueva especie. Se describe e ilustra *Anthrenus (Anthrenus) linnavuorii* sp. nov. de Sudán y se compara con las especies similares *Anthrenus (Anthrenus) kubistai* Háva & Votruba, 2005 y *Anthrenus (Anthrenus) crustaceus* Reitter, 1881. Se citan por primera vez de Sudán las siguientes especies: *Anthrenus (Anthrenodes) wittmeri* Mroczkowski, 1980, *Attagenus asmaranus* (Pic, 1942), *Attagenus iserlei* Háva & Kadej, 2008, *Attagenus katonai* Háva & Kadej, 2008, *Attagenus uniformis* Fairmaire en Fairmaire & Coquerel, 1860. También se presenta una lista de todas las especies conocidas de Sudán y Sudán del Sur.

Palabras clave: Coleoptera, Dermestidae, Taxonomía, faunística, nueva especie, nuevas citas, Sudán.

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Introduction

The family Dermestidae currently consists of 60 genera, containing ca. 1480 species worldwide. Some of them have been recognised as pests of different goods and store products. They occur in various habitats, and can be found in synanthropic (in flats, houses, storage products) and natural character (e.g. on flowers, under barks, inside of hollows, in nests of birds or mammals, around spider webs) (Háva in Zahradník & Háva 2014).

Only 17 species are known from Sudan at present (Dalla Torre 1911, Cotton & Good 1937, Darling 1951, Khalifa & Badawi 1961, Badawi & Hassan 1964, Mroczkowski 1968, Háva 2003, Háva & Votruba 2005, Satti 2011). The present article is based on materials from the Finnish Museum of Natural History, Helsinki, Finland. New faunal records and the description of a new species from Sudan are here introduced.

Material and methods

Species are arranged in alphabetical order and the nomenclature and zoogeography follow Háva (2003, 2007).

The dissected male genitalia were macerated in 10% solution of KOH heated up to 90°C for a few minutes.

The following measurements were made:

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

Pronotal length (PL) - maximum length measured from anterior margin to posterior margin.

Pronotal width (PW) - maximum linear transverse distance.

Elytral length (EL) - linear distance from shoulder to apex of elytron.

Elytral width (EW) - maximum linear transverse distance.

The following abbreviations refer to the collections where the examined material is deposited:

JHAC: Jiří Háva, Private Entomological Laboratory & Collection, Únětice u Prahy, Prague-west, Czech Republic.

MZHF: Finnish Museum of Natural History, Helsinki, Finland.

Results

Subfamily Dermestinae Tribe Dermestini

Dermestes (Dermestes) leechi Kalík, 1952

Material examined: Sudan, Kosti, 22.1.1963, Linnavuori leg., 1 male, (MZHF).

Subfamily Attageninae Tribe Attagenini

Attagenus asmaranus (Pic, 1942)

Material examined: Sudan, Blue Nile, Ingessana Mts., 17-22.11.1962, Linnavuori leg., *Attagenus near robustior* Pic, V. Kalík det. 1990, 10 spec., (7 MZHF, 3 JHAC); Sudan, Blue Nile, Umm Banein, 14.11.1962, Linnavuori leg., 3 spec., (MZHF).

Remarks: Previously known only from Eritrea (Háva, 2003). New for Sudan.

Attagenus cyphonoides Reitter, 1881

Material examined: Sudan, Wadi Halfa, 7.4.1964, M. Meinander leg., 1 spec., (MZHF).

Attagenus fasciatus (Thunberg, 1795)

Material examined: Sudan, Port Sudan, 25-27.10.1962, S. Panelius leg., 1 spec., (MZHF).

Attagenus iserlei Háva & Kadej, 2008

Material examined: Sudan, W. Halfa distr., Abka, 29.3.1964, M. Meinander leg., 17 spec., (14 MZHF, 3 JHAC); Sudan, W. Halfa distr., Sharta, 30.3.1964, M. Meinander leg. [or J. Kaisila leg.], 7 spec., (MZHF); the same locality but 5.4.1964, 1 spec., (MZHF); Sudan, W. Halfa distr., Sarah Gharb, 10.10.1962, S. Panelius leg., 8 spec., (7 MZHF, 1 JHAC); Sudan, W. Halfa distr., Ashkeit, 8.10.1962, S. Panelius leg., 3 spec., (2 MZHF, 1 JHAC); Sudan, W. Halfa distr., Dibeira, 1.10.1962, S. Panelius leg., 3 spec., (2 MZHF, 1 JHAC); Sudan, Wadi Halfa, 13.4.1964, M. Meinander leg., 2 spec., (1 MZHF, 1 JHAC); the same data but 1.4.1964, J. Kaisila leg., 2 spec., (MZHF); Sudan, Atbara,

19.10.1962, 1 spec., 20.10.1962, 2 spec., 22.10.1962, 1 spec., all S. Panelius leg., (MZHF); Sudan, nr. Dibeira, 6-13.10.1962, Linnavuori leg., 4 spec., (3 MZHF, 1 JHAC).

Remarks: Previously known only from Eritrea (Háva & Kadej, 2008). New for Sudan.

***Attagenus katonai* Háva & Kadej, 2008**

Material examined: Sudan, W. Halfa distr., Sharta, 30.3.1964, M. Meinander leg., *Attagenus* sp. V. Kalík det. 1990, 1 spec., (MZHF); Sudan, Shendi-Wad Hassuna, 5-6.11.1961, Linnavuori leg., 1 spec., (MZHF); Sudan, Atbara, 19.10.1962, S. Panelius leg., 1 spec., (MZHF).

Remarks: Previously known only from Eritrea (Háva & Kadej, 2008). New for Sudan.

***Attagenus uniformis* Fairmaire in Fairmaire & Coquerel, 1860**

Material examined: Sudan, Wadi Halfa, 9.4.1964, M. Meinander leg., 1 spec., (MZHF).

Remarks: Previously known from Sicily, Algeria, Egypt, Libya, Morocco, Tunisia, Iraq, Israel and Syria (Háva 2003). New for Sudan.

***Attagenus* sp.**

Material examined: Sudan, W. Halfa distr., Abka, 29.3.1964, M. Meinander leg., 1 female, (MZHF).

Remarks: The female specimen probably belongs to a new species, but additional material is needed for proper assessment, particularly male specimens.

**Subfamily Megatominae
Tribe Anthrenini**

***Anthrenus (Anthrenodes) wittmeri* Mroczkowski, 1980**

Material examined: Sudan, W. Halfa distr., Dibeira, 28.9.1962, S. Panelius leg., *Tamarix* & *Acacia*, 6 spec., (MZHF); the same data but 9.10.1962, 2 spec., (1 MZHF, 1 JHAC); Sudan, W. Halfa distr., Abka, 29.3.1964, M. Meinander leg. [or J. Kaisila leg.], 13 spec., (10 MZHF, 3 JHAC); Sudan, W. Halfa distr., Sarah Gharb, 10.10.1962, S. Panelius leg., 6 spec., (5 MZHF, 1 JHAC); Sudan, Wadi Halfa, 21-24.7.1961, R. Linnavuori leg., 4 spec., (3 MZHF, 1 JHAC); Sudan, Wadi Halfa, 13.4.1964, M. Meinander leg., 2 spec., (MZHF); Sudan, Wadi Halfa, Khor Musa Pasha, 7.4.1964, M. Meinander leg., 1 spec., (MZHF).

Remarks: Previously known from Saudi Arabia and Eritrea (Háva 2003). New for Sudan.

***Anthrenus (Anthrenops) coloratus* Reitter, 1881**

Material examined: Sudan, W. Halfa distr., Abka, 29.3.1964, M. Meinander leg. [or J. Kaisila leg.], 30 spec., (28 MZHF, 2 JHAC); Sudan, Wadi Halfa, 1.4.1964, J. Kaisila leg., 4 spec., (MZHF); Sudan, Wadi Halfa, 13.4.1964, M. Meinander leg., 2 spec., (MZHF); Sudan, Wadi Halfa, 9.4.1964, M. Meinander leg., 3 spec., (MZHF).

***Anthrenus (Anthrenus) kubistai* Háva & Votruba, 2005**

Material examined: Sudan, Blue Nile, Ingessana Mts., 17-22.11.1962, R. Linnavuori leg., 1 male, (MZHF).

Remarks: Additional record of this species known only from Sudan (Háva & Votruba, 2005).

***Anthrenus (Anthrenus) linnavuorii* sp. nov.** (Figs. 1-3)

Type locality: Sudan, Blue Nile, Ingessana Mts.

Type material: Holotype (male): Sudan, Blue Nile, Ingessana Mts., 17-22.11.1962, R. Linnavuori leg., (MZHF). Paratype (1 female): the same data as Holotype, (MZHF). Specimens of the newly described species are provided with a red printed label with text as follows: "HOLOTYPE (or PARATYPE, respectively), *Anthrenus (s. str.) linnavuorii* sp. nov. Jiří Háva det. 2014".

Description.

Body measurements (mm): TL 2.0 PL 0.5 PW 1.2 EL 1.6 EW 1.5. Body small, oval, elytra broadest behind middle. Integument of head, elytra and pronotum dark brown, legs light brown. Dorsal surface covered with brown and milky scales, ventral side intermixed with brown and milky scales.

Head with intermixed brown and milky scales. Labial palpi entirely brown. Antennae with 11 antennomeres, antennomeres dark brown; antennal club oblong oval, with 3 antennomeres (Fig. 2). Eyes large, with brown microsetae; inner margin emarginate. Median ocellus present on frons. Pronotum with milky scales and with brown spot as in Fig. 1. Antennal fossa broad, closed and conforming to shape of antennal club. Prosternum covered with milky scales only.

Elytra covered with brown and milky scales. Milky scales forming spots as in Fig 1.

Individual scales widest at proximal 1/3. Epipleuron very short, brown, with milky scales.

Mesosternum and metasternum covered with intermixed brown and milky scales.

Visible ventrites covered with milky scales; ventrites I-IV with spots of brownish scales at lateral margins. The ventrite I, without lateral spots. Pygidium dark brown with brown setation.

Legs entirely light brown, with some short, light white setae, femora also with few milky scales.

Male genitalia as in Fig. 3.

Female externally similar to male, but terminal antennomere is smaller.

Differential diagnosis: Based on the 11-antennomered antenna and on the eyes with emarginate medial margin, the new species belongs to the nominotypical subgenus *Anthrenus Geoffroy*, 1762. It is similar to *Anthrenus (A.) kubistai* Háva & Votruba, 2005 and *A. (A.) crustaceus* Reitter, 1881 but it differs from both by the different antenna, by the male genitalia, and by the colour pattern on elytra (Figs. 1-3).

Distribution: Sudan.

Etymology: Patronymic, named after the collector of the new species, R. Linnavuori (Helsinki, Finland).

Anthrenus (Anthrenus) sp.

Material examined: Sudan, Blue Nile, Sirga-Damazin, 15-17.11.1962, R. Linnavuori leg., 1 female, (MZHF).

Remarks. The female specimen probably belongs to a new species, but additional material is needed for proper assessment, particularly male specimens.

Tribe Megatomini

***Phradonoma cercyonoides* Reitter, 1887**

Material examined: Sudan, Wadi Halfa, 21-24.7.1961, R. Linnavuori leg., 1 spec., (MZHF); Sudan, Atbara, 20.10.1962, S. Panelius leg., 1 spec., (MZHF).

Trogoderma granarium Everts, 1898

Material examined: Sudan, Wadi Halfa, Dibeira, 1.4.1964, J. Kaisila leg., 1 spec., (MZHF).

List of species recorded from Sudan

(* = new record).

Subfamily Dermestinae

Tribe Dermestini

Dermestes (Dermestes) ater DeGeer, 1774

Dermestes (Dermestes) leechi Kalík, 1952

Dermestes (Dermestinus) maculatus DeGeer, 1774

Subfamily Thorictinae

Tribe Thaumaphrastini

Thorictodes heydeni Reitter, 1875

Subfamily Trinodinae

Tribe Trinodini

Evorinea flava (Motschulsky, 1863)

Subfamily Attageninae

Tribe Attagenini

* *Attagenus asmaranus* (Pic, 1942)

Attagenus cyphonoides Reitter, 1881

Attagenus fasciatus (Thunberg, 1795)

* *Attagenus iserlei* Háva & Kadej, 2008

* *Attagenus katonai* Háva & Kadej, 2008

Attagenus latepubescens Pic, 1952

Attagenus posticalis Fairmaire, 1879

Attagenus smirnovi Zhantiev, 1973

* *Attagenus uniformis* Fairmaire in Fairmaire & Coquerel, 1860

Subfamily Megatominae

Tribe Anthrenini

* *Anthrenus (Anthrenodes) wittmeri* Mroczkowski, 1980

Anthrenus (Anthrenops) coloratus Reitter, 1881

Anthrenus (Anthrenus) flavipes flavipes LeConte, 1854

Anthrenus (Anthrenus) kubistai Háva & Votruba, 2005

* *Anthrenus (Anthrenus) linnavuorii* sp. nov.

Anthrenus (Helocerus) minutus Erichson, 1846

Tribe Megatomini

Phradonoma cercyonoides Reitter, 1887

Phradonoma nobile (Reitter, 1881)

Trogoderma granarium Everts, 1898

List of species recorded from South Sudan

Subfamily Dermestinae

Tribe Dermestini

Dermestes (Dermestinus) maculatus DeGeer, 1774

Subfamily Attageninae

Tribe Attagenini

Attagenus cyphonoides Reitter, 1881

Subfamily Megatominae

Tribe Anthrenini

Anthrenus (Anthrenops) coloratus Reitter, 1881

Anthrenus (Anthrenus) flavipes flavipes LeConte, 1854

Tribe Megatomini

Phradonoma nobile (Reitter, 1881)

Trogoderma granarium Everts, 1898

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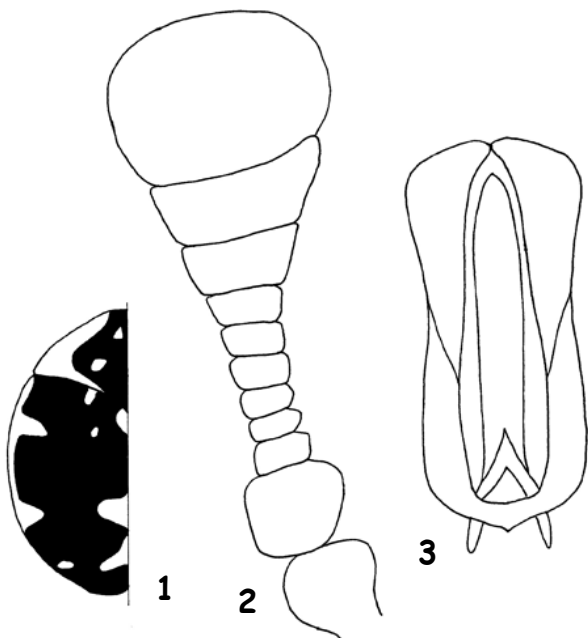
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Figs. 1-3.- *Anthrenus* (A.) *linnavuorii* sp. nov.:
1.- Colour patterns on elytra and pronoto.
2.- Antenna.
3.- Aedeagus.

Figs. 4-5.- *Anthrenus* (A.) *kubistai* Háva & Votruba, 2005:
4.- Aedeagus.
5.- Antenna.

Figs. 6-7.- *Anthrenus* (A.) *crustaceus* Reitter, 1881:
6.- Aedeagus.
7.- Antenna.

