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Attagenus (*Attagenus*) *roberti* sp. nov., a new dermestid species (Coleoptera: Dermestidae) from the Republic of South Africa

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Abstract. A new species, *Attagenus* (*Attagenus*) *roberti* sp. nov. from the Republic of South Africa is described, illustrated and compared with similar species. Furthermore a list of the species of the genus *Attagenus* from the Republic of South Africa is provided.

INTRODUCTION

The genus *Attagenus* Latreille, 1802 is one of about 60 genera established within the beetle family Dermestidae. This genus includes roundabout 250 different species (respectively subspecies) worldwide (Háva 2015), almost 40 of them have been recorded from the Republic of South Africa (Kadej & Háva 2015, Háva 2016, Herrmann et al. 2016, Herrmann, Háva & Kadej 2017, Herrmann & Kadej 2017). Some of them have been classified as economically important pests of stored products, museum's collections and other goods (Peacock 1993, Kadej & Háva 2014). The genus *Attagenus* contains the species that represent the following set of characteristics: first segment of hind tarsi almost half as long as the second, free mouthparts, three-jointed antennal club and lack of distinct antennal cavity on the hypomeron (Kadej & Háva 2014, 2015).

In the present paper, we describe a new species of this genus being recognized during the identification of the material collected by Robert Constantin during his trips in South Africa as well as many *Attagenus* species deposited in the collection of the Transvaal Museum (TMSA).

MATERIAL AND METHODS

A few of the specimens were stored for 5 days in a solution of 1% pepsin in hydrochloric acid to free them roughly from protein tissues and to make the extremities of the body moveable. The abdomen was disconnected from the body and glued upside-down onto the same cardboard plate, just behind the beetle. Before this, the genitalia were excluded and then cleaned with a fine needle in a drop of 99 percent glycerol. Afterwards, it was also glued onto the plate behind the beetle, firmly embedded in a drop of a solution consisting of polyvinylpyrrolidone, aqua demineralisata and diglycerin (the liquid solution becomes permanently solid after a few minutes). Photos of body and abdomen were taken with a

digital SLR camera Sony alpha 35, connected with an objective Nikon CF N Plan Achromat 4x 160/- and extension rings; for the photos of the genitalia and antenna a Bresser Junior USB-Handmikroskop at 200x magnification was used. Because of the low depth of field all photos were taken as layered images, afterwards combined on a PC by using the stacking program CombineZP.

Nomenclature and systematic used in the present paper follow Háva (2015).

The size of the beetle and of its body parts can be useful in species recognition, so the following measurements were made:

a) total length (TL) - linear distance from anterior margin of pronotum to apex of elytra.
b) pronotal length (PL) - maximal length measured from anterior margin to posterior margin.
c) pronotal width (PW) - maximal linear transverse distance.
d) elytral length (EL) - linear distance from shoulder to apex of elytron.
e) elytral width (EW) - maximal linear transverse distance.

The type specimens of the species described are provided with a red, printed label showing the following text: „HOLOTYPUS [respectively PARATYPUS], *Attagenus* (s. str.) *roberti* n. sp., Herrmann & Háva det. 2020".

Acronyms of type depositories:

AHEC Private collection of Andreas Herrmann, Stade, Germany;
JHAC Jiří Háva, Private Entomological Laboratory and Collection, Únětice u Prahy, Prague west, Czech Republic;
TMSA Ditsong National Museum of Natural History, Pretoria, Republic of South Africa.

DESCRIPTION

Attagenus (*Attagenus*) *roberti* sp. nov.

(Figs. 1-6)

Type material. Holotype (♂): „RSA, Alexandria, Eastern Cape, Forest near ocean view, 13.10.2002, leg. R. Constantin", (AHEC). Paratypes: (1 ♀): „RSA, De Rust, Western Cape, 14.10.2000, leg. R. Constantin", (AHEC); (1 ♂): „RSA, Robertson, Western Cape, Succulent karoo, 11.10.2000, leg. R. Constantin", (AHEC); (2 ♀): „RSA, Seweweekspoort, Western Cape, Boshuiskloof, 12.10.2000, leg. R. Constantin", (AHEC); (2 ♀♀): „RSA, Seweweekspoort, Western Cape, Gamkapoortdam, 18.10.2002, leg. R. Constantin", (AHEC); (1 ♂, 1 ♀): „RSA, Willowmore, Eastern Cape, Ghwarriepoort, 23.10.2003, leg. R. Constantin", (AHEC); (1 ♀): „S. Afr., Namaq coast, Buffelsriver, 27.10.1977, leg. Endrödy-Younga", (TMSA); (6 ♀♀): „S. Afr., Little Karroo, Kamanasiberg N, 2.11.1993, leg. Endrödy-Younga", (TMSA); (1 ♀): „S. Afr., Little Karroo, Oudtshoorn, 5 km N, 29.10.1993, leg. Endrödy-Younga", (TMSA); (2 ♀♀): „S. Afr., Little Karroo, Oudtshoorn, 5 km N, 25.10.1993, leg. Endrödy-Younga", (TMSA); (2 ♀♀): „S. Afr., Cape-Karroo, Lanara farm, 19.9.1983, leg. Penrith", (TMSA); (2 ♂♂, 2 ♀♀): „S. Afr., Little Karroo, De Rust, 14.10.1984, leg. R. Müller", (TMSA); (1 ♀): „RSA, West Cape, 6 km S Oudtshoorn, 320 m, 33°39.528´S/22°13.542´E, 18.x.2013, S. Prepsl leg.", (JHAC); (2 ♀♀): „RSA, Western Cape, 17 m betw., Buffelsbaai and N2, 34°03.742´S 22°56.987´E, 24.x2019, R. Borovec lgt., (JHAC).

Remarks. The holotype misses the middle right leg completely.

Description of the holotype. Body robust, longish oval (Fig. 1); measurements (in mm): TL 3.3, PL 0.7, PW 1.8, EL 2.7, EW 2.0. Head shiny and black, with distinct and deep punctures,

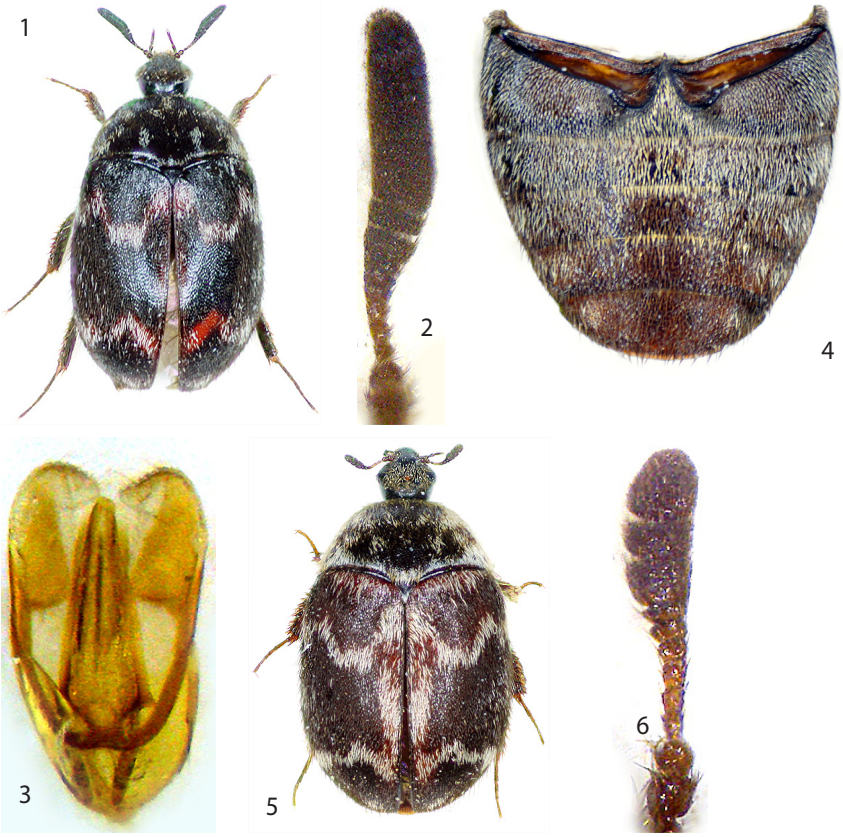
covered sparsely with quite long and recumbent light brown hairs; palpi darkish brown to black. Eyes large with short and hardly visible erected interfacetal setae. Ocellus distinct, shiny and convex. Antenna entirely black, the segments in the middle of the shaft slightly brightened, shiny and naked, with a very few dark erect setae. Antenna 11-segmented, the last three segments forming distinct club covered densely by fine decumbent dark pubescence; the last segment of the club five times as long as the two preceding combined, the whole club roughly as long as the shaft (Fig. 2). Pronotum slightly bulged, broadest at the apical part, narrowed from the anterior to the apical margin, entirely black, distinctly and very densely punctured, lateral margins smooth, untoothed, not visible from above; dorsal surface covered with decumbent blackish pubescence with some intermixed brown and whitish hairs; the whitish hairs build several indistinct spots and blurred maculae of different size spread all over the pronotal surface. Scutellum small, black and triangular, dull by dense punctuation. Cuticle of the elytra black with two reddish serrated fasciae reaching wave-like from the suture to the lateral margins; one fascia is located in the anterior quarter and starts at the scutellum, the second one in the apical quarter, furthermore a reddish spot covers the apical end, also the suture is slightly reddish; elytral punctuation as in the pronotum, humeri with a flat and indistinct bump; the elytral pubescence consists entirely of decumbent dark hairs except some whitish hairs which cover the reddish parts of the elytral cuticle (Fig. 1). Legs robust and brown, provided with erected, short bright hairs. All tibiae with several rows of strong brown spines at their lateral margins. Tarsi quite long, roughly as long as the tibiae, brown. Mesosternum black, covered sparsely with decumbent bright hairs. Abdominal ventrites blackish brown to black, punctured as in the elytra and covered quite densely with decumbent light brown hairs and intermixed brown hairs; the brown hairs dominate towards the middle of the apex (Fig. 4). Male genitalia as shown in Fig. 3.

Female. Habitually similar to male, but body broadly oval, the suture between the two fasciae distinctly covered by bright hairs, and with a much smaller antennal club (Fig. 5). Antenna as in Fig. 6.

Variation in size. 3.0-3.8 mm.

Differential diagnosis. The new species resembles *Attagenus freyi* Herrmann, Háva & Kadej, 2017, but differs in the arrangement of the elytral fasciae respectively spots, and also in the size of the last antennal segment which is much larger in male than it is in male *Attagenus freyi*. From all other species belonging to the genus *Attagenus* occurring in the south of the African continent it could be distinguished by the conspicuous elytral fasciae and spots in combination with the form of the male antennal club and male genitalia.

Etymology. The name of the new species is dedicated to Robert Constantin - a well known French coleopterist and collector of the holotype, after his first name.



Figs. 1-6. Holotype (male) of *Attagenus roberti* sp. nov.: 1- habitus; 2- antenna of male; 3- genitalia; 4- abdomen; Paratype (female) of *Attagenus roberti* sp. nov.: 5- habitus; 6- antenna of female.

THE *ATTAGENUS* SPECIES RECORDED FROM THE REPUBLIC OF SOUTH AFRICA

Attagenus albonotatus Pic, 1927
Attagenus aurofasciatus Háva, 2005
Attagenus boroveci Háva, 2016
Attagenus brunneus Faldermann, 1835
Attagenus capensis Reitter, 1881
Attagenus capronatus Herrmann, Kadej & Háva, 2015
Attagenus cinereus (Thunberg, 1815)
Attagenus constantini Herrmann, Kadej & Háva, 2015
Attagenus danielssoni Herrmann, Kadej & Háva, 2016
Attagenus diversesignatus Pic, 1942
Attagenus diversus Reitter, 1881
Attagenus donckieri Pic, 1916
Attagenus fasciatopunctatus Reitter, 1881
Attagenus fasciatus (Thunberg, 1795)
Attagenus flexicollis Reitter, 1881

Attagenus freyi Herrmann, Háva & Kadej, 2017
Attagenus fulvicollis Reitter, 1881
Attagenus grandjeani Pic, 1942
Attagenus holmi Kalík & Háva, 2005
Attagenus hottentotus (Guérin-Méneville, 1844)
Attagenus jucundus Péringuey, 1885
Attagenus leopardinus Reitter, 1881
Attagenus matamata Kadej & Háva, 2015
Attagenus muelleri Herrmann, Kadej & Háva, 2015
Attagenus pardus Arrow, 1915
Attagenus prescutellaris Pic, 1927
Attagenus pseudocapensis Herrmann, Kadej & Háva, 2015
Attagenus pseudocinereus Herrmann & Kadej, 2017
Attagenus pustulatus (Thunberg, 1815)
Attagenus rhodesianus Pic, 1927
Attagenus roberti sp. nov.
Attagenus romani Háva, 2016
Attagenus rufiventris Pic, 1927
Attagenus schawalleri Herrmann, Kadej & Háva, 2015
Attagenus thunbergi Mroczkowski, 1968
Attagenus unicolor (Brahm, 1791)
Attagenus vestitus Klug, 1855

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