

***Paranovelsis mcdonaldi* sp. nov., a new dermestid (Coleoptera: Dermestidae) from California, USA**

Andreas HERRMANN¹ & Jiří HÁVA²

¹Bremervörder Straße 123, D - 21682 Stade, Germany
e-mail: herrmann@coleopterologie.de

²Forestry and Game Management Research Institute,
Strnady 136, CZ-156 00 Praha 5 - Zbraslav, Czech Republic
e-mail: jh.dermestidae@volny.cz

Taxonomy, description, new species, Coleoptera, Dermestidae, *Paranovelsis*, California, USA

Abstract. A new species, *Paranovelsis mcdonaldi* sp. nov. occurring in California, USA, is described, illustrated and compared with the similar looking *Paranovelsis perplexus* (Jayne, 1882).

INTRODUCTION

The genus *Paranovelsis* Casey, 1900 is one of about 60 genera established within the beetle family Dermestidae. Beal treated it as a subgenus of *Novelsis* Casey, 1900 (Beal, 1954) until Háva (Zahradník & Háva, 2014) reinstalled *Paranovelsis* as a valid genus. This genus includes 22 different species worldwide (Háva 2021), only 3 of them have been recorded from the USA so far. In the present paper we describe a new species of this genus which has been detected when identifying some dermestids collected by Gary McDonald in California, at or near the picnic table on his property.

MATERIAL AND METHODS

The specimens were stored for 5 days in a solution of 1% pepsin in hydrochloric acid to free them roughly from protein tissues and making 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 was excluded and then cleaned with a fine needle in a drop of 99% 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 diglycerol (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 in this paper follow Háva (2021).

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

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

pronotal length (PL) - maximal length measured from anterior margin to posterior margin.

pronotal width (PW) - maximal linear transverse distance.

elytral length (EL) —linear distance from shoulder to apex of elytron.

elytral width (EW) - maximal linear transverse distance.

The type specimens of the described species are provided with a red, printed label showing the following text: „HOLOTYPUS [respectively PARATYPUS], *Paranovelsis mcdonaldi* nov. spec., A. Herrmann & J. Háva det. 2021”.

DESCRIPTION

Paranovelsis mcdonaldi sp. nov.

(Figs. 1-4)

Type material. Holotype (♂): „USA, California, Willow Springs, San Benito County, 36.66694°N, 12103119°W, 2.VII.2012 leg. G. McDonald. Paratypes: (1 ♂, 2 ♀♀): same record data as the holotype; (2 ♀♀): same location, but caught there on a different day: 6.VII.2012. All type specimens are deposited in the collection of the first author.



Figs. 1-8. *Paranovelsis mcdonaldi* sp. nov.: 1- habitus; 2- antennae (male & female); 3- male genitalia; 4- abdomen; *Paranovelsis perplexus* (Jayne, 1882): 5- habitus; 6- antenna of male; 7- male genitalia; 8- abdomen. (all photos were taken from a male specimen (except Fig. 2))

Description of the holotype. Body robust, longish oval (Fig. 1); measurements (in mm): TL 3.4, PL 0.8, PW 1.8, EL 2.8, EW 1.9. Head shiny and black, with distinct and deep punctures, sparsely covered with long and recumbent light brown hairs, one and a half times broader than long; palpi darkish brown. Eyes large with short and hardly visible erect setae. Ocellus distinct, shiny and convex. Shaft of the antenna yellow, the first two segments slightly darkened on their surface, shiny and naked, with a few brown erect setae. Antenna 11-segmented, the last three antennomeres forming a distinct club which appears dull because of very fine and dense pubescence; the last segment of the club somewhat shorter than the two preceding combined, the whole club one and a half times longer as the shaft (Fig. 2). Pronotum slightly bulged, broadest in the apical part, trapezoidal narrowed from the anterior to the apical margin, entirely black, distinctly and quite densely punctured, lateral margins smooth, untoothed, not visible from above; dorsal surface covered sparsely with decumbent brown pubescence, intermixed with long bright hairs mainly concentrated on the hind edges and near the apical margin. Scutellum small, black and triangular, densely punctuated, covered by recumbent brown pubescence. Cuticle of the elytra entirely black to darkish brown, humeri with a flat bump; punctuation and pubescence as in the pronotum, the intermixed bright long hairs build three indistinct transverse fasciae; the first runs wave-like from the scutellum to the shoulder, the second one is located in the apical third, and the last one near to the apex (Fig. 1). Legs darkish honey-brown, covered with erect, short bright hairs. Tarsi quite long, roughly as long as the tibiae. Mesosternum black, covered with decumbent bright hairs. Abdominal ventrites blackish brown, punctured as in the elytra, covered with a mixture of brown and bright hairs (Fig. 4). Male genitalia as shown in Fig. 3.

Female. Habitual very similar to male, but with smaller antennae (Fig. 2).

Variation in size. 3.4-4.5 mm.

Differential diagnosis. The new species resembles *Paranovelsis perplexus* (Jayne, 1882), but differs in a narrower shape of the body and indistinct elytral fasciae, furthermore the pubescence, particularly the bright hairs appear less recumbent (see Figs. 1-8). From that species and also all other *Paranovelsis* occurring in the USA it could be distinguished by the form of the male genitalia and antenna.

Etymology. The name of the new species is dedicated in honour to the collector of the types, Gary McDonald from California, USA.

ACKNOWLEDGEMENTS. A great thank goes to Gary McDonald (California, USA) for generously sparing the specimens to the first author. The paper was supported by the Ministry of Agriculture of the Czech Republic, institutional support MZE-RO0118.

REFERENCES

- BEAL R. S. 1954: A revision of the species included in the genus *Novelsis* (Coleoptera: Dermestidae). *Transactions of the American Entomological Society, Philadelphia* 80: 73-90
- HÁVA J. 2021: Dermestidae World (Coleoptera) - World Wide Web electronic publication (open in 2004): <http://www.dermestidae.wz.cz> [version 2018, update January 2021]
- ZAHRADNÍK P. & HÁVA J. 2014: Catalogue of the world genera and subgenera of the superfamilies Derodontoidea and Bostrichoidea (Coleoptera: Derodontiformia, Bostrichiformia). *Zootaxa* 3754: 301-352