ISRAEL JOURNAL OF ENTOMOLOGY, Vol. 50 (2), pp. 31–37 (6 August 2020)

This contribution is published to honor Prof. Vladimir Chikatunov, a scientist, a colleague and a friend, on the occasion of his 80th birthday.

A new psammophilic species of the genus *Catomus* Allard, 1876 (Coleoptera: Tenebrionidae: Helopini) from the Negev Desert, Israel, with a key to all known species from the Near East

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ABSTRACT

A new species of darkling beetles of the tribe Helopini is described from Southern Israel: *Catomus chikatunovi* n. sp. A new species differs from all Near Eastern *Catomus* Allard, 1876 in the presence of long sparse erected hairs on lateral margins of pronotum and elytra, the latter being otherwise bare dorsally. The new species exhibits arenicolous morphological adaptations. An identification key to all known species of *Catomus* from the Near East is given.

KEYWORDS: Tenebrionidae, *Catomus*, darkling beetles, new species, identification key, Negev, dunes, Near East, Palaearctic.

РЕЗЮМЕ

Описан новый вид жуков-чернотелок трибы Helopini из Южного Израиля: *Catomus chikatunovi* n. sp. Новый вид отличается от всех ближневосточных *Catomus* Allard, 1876 наличием длинных редких торчащих волосков на боковых краях переднеспинки и надкрылий, но при этом голыми надкрыльями на дорсальной стороне. Этот вид обладает морфологическими адаптациями к обитанию в песке. Дана определительная таблица для всех известных видов *Catomus* Ближнего Востока.

КЛЮЧЕВЫЕ СЛОВА: Tenebrionidae, *Catomus*, чернотелки, новый вид, определительная таблица, дюны, палеарктическая область, пустыня Негев.

INTRODUCTION

The genus *Catomus* Allard, 1876 includes 70 species in the Palaearctic Region (Nabozhenko & Löbl 2008; Castro Tovar 2015; Nabozhenko & Ando 2018; Ponel *et al.* 2020) and two species in the Afrotropical Region (Gridelli 1940; Kaszab 1982). The genus is divided into four subgenera: *Catomus* s. str. and *Catomodontus* Löbl & Merkl, 2003 are distributed mainly in the Mediterranean and in lowlands of Central Asia, *Montanocatomus* Nabozhenko, 2006 is known from Pamir-Alay and Tian Shan mountain systems, and *Sinocatomus* Nabozhenko, 2006 occurs in China (Yunnan, Sichuan, Gansu).

DOI: 10.5281/zenodo.3974456; ISSN (online) 2224-6304
Received: 25 May 2020 / Revised: 14 June 2020 / Accepted: 12 July 2020
urn:lsid:zoobank.org:pub:FE6DD4D2-6502-461E-B79A-C994E3E16B9B

The genus was revised for Central Asia (Nabozhenko 2006, 2007), Iran (Nabozhenko 2015*a*) and China (Nabozhenko & Ando 2018). The Mediterranean species of *Catomus* were partly revised (Antoine 1949; Español & Viñolas 1986), but descriptions of new taxa continue to arrive (Castro Tovar 2015; Nabozhenko 2015*b*; Ponel *et al*. 2020). The most problematic is the North African fauna of *Catomus*, with numerous species that partly probably belong to different genera and subtribes (Nabozhenko *et al*. 2016).

The Near Eastern species of the genus were discussed by Nabozhenko and his co-authors (Nabozhenko *et al*. 2012; Nabozhenko 2015*a*; Nabozhenko & Grimm 2019; Nabozhenko & Tichý 2019) and several new synonyms were established. The revision of the Near Eastern *Catomus* is now in preparation, but herein I describe a new unusual species from sand dunes of the Negev Desert.

MATERIALS AND METHODS

The material studied is deposited in the following collections: CMLang – Private collection of Michael Langer (Niederwiesa, Germany); CMLill – Private collection of Martin Lillig (Saarbrücken, Germany); SMNHTAU – The Steinhardt Museum of Natural History, Tel Aviv University, Israel (A.-L.-L. Friedman); SMNS – Staatliches Museum für Naturkunde Stuttgart, Germany (W. Schawaller); ZIN – Zoological institute of the Russian Academy of Sciences, St Petersburg, Russia (M. Volkovitsh).

TAXONOMY

Genus *Catomus* Allard, 1876

Catomus chikatunovi n. sp.

(Figs 1–6)

LSID: urn:lsid:zoobank.org:act:4EBBC17B-B387-452F-898C-92F30AC5612A.

Etymology: The species is named in honour of Prof. Vladimir Il'ich Chikatunov (SMNHTAU), who made a significant contribution to the study of the Coleoptera fauna of the Central Asia and the Near East, and in connection with his 80th birthday.

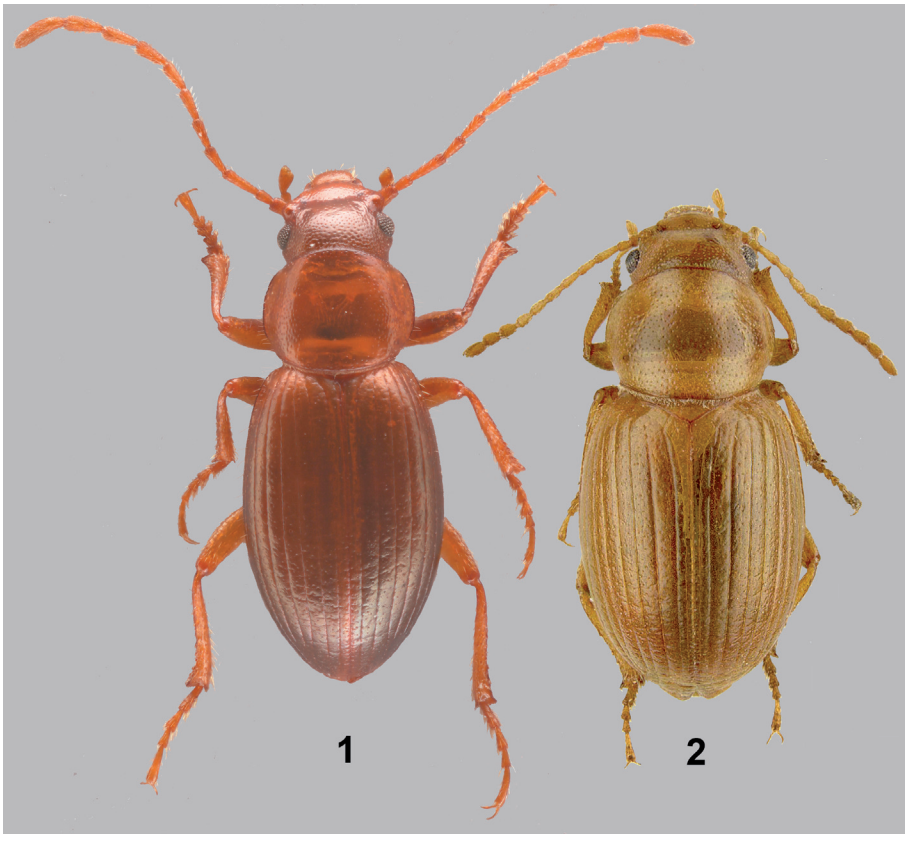
Differential diagnosis: The new species is most similar to *C. fulvipes* (Reiche & Saulcy, 1857) in the shape of its small oval body, but differs from the latter species and all Near Eastern *Catomus* in the presence of long sparse erect hairs on the margins of the pronotum and elytra, but the elytra are bare dorsally. All known species from Israel can be separated using the key below.

Description: Male. Body length 4.4–4.5 mm, width 1.9–2.0 mm. Body robust, strongly convex, weakly shiny, reddish yellow, eyes black, antennae and legs long and slender (Fig. 1).

Head widest at eye level. Anterior margin of epistoma straight; genae strongly angulate round; eyes small, eye height shorter than mandible height in lateral view, weakly oval in lateral view, widely placed in dorsal view; lateral margin of

head with obtuse emargination between gena and epistoma; epistoma separated from frons by deep transverse impression; ratio of head width to interocular space 1.38; punctation of head fine and sparse (puncture diameter about 2× shorter that interpuncture distance). Head ventrally with transverse wrinkles; apical maxillary palpomeres flattened, elongate triangle; apical labial palpomeres sub-cylindrical. Antennae densely pubescent, very long and thin, with four apical antennomeres extending beyond base of pronotum, reaching ⅔ of elytral length. Antennomere 11 unusually long, 4.16–4.20× as long as wide, 1.6× longer than antennomere 10, and weakly bent.

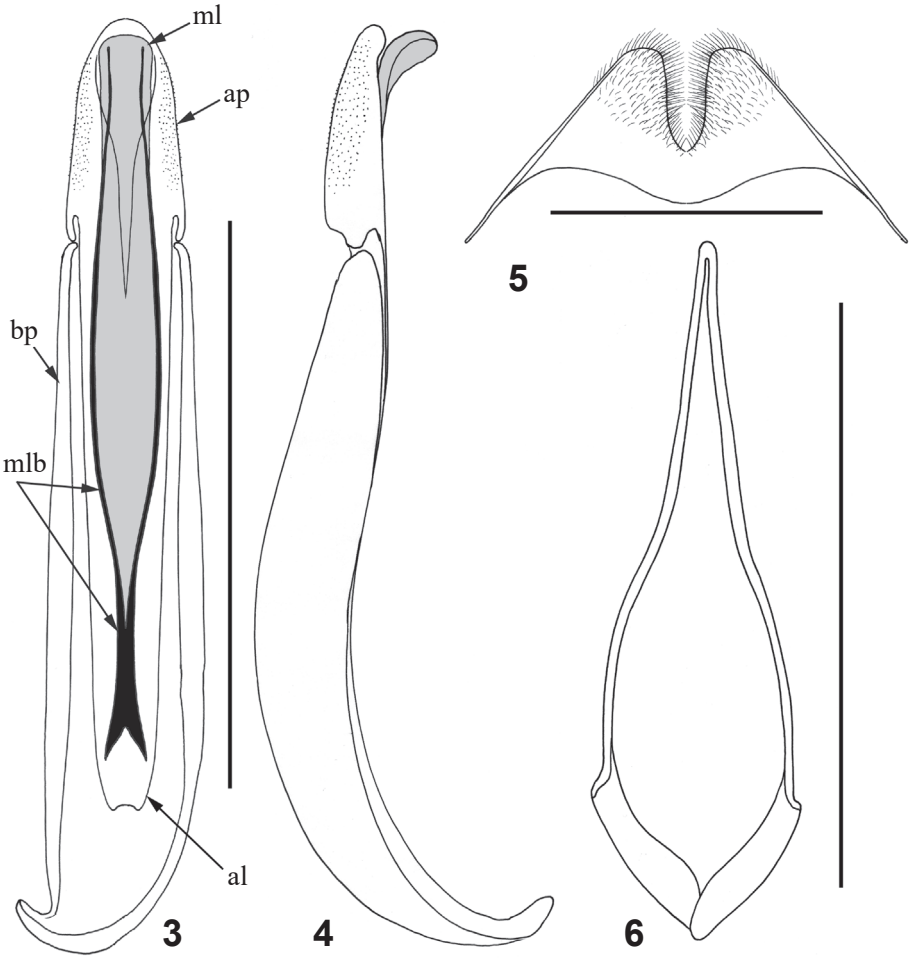
Prothorax. Pronotum strongly transverse (1.3× as wide as long), strongly transversely convex, 1.08× as wide as head; lateral margins and base strongly rounded together and finely beaded, posterior angles absent; anterior margin weakly rounded, without bead; anterior angles widely rounded, obtuse; punctation of pronotum finer and sparser than on head, punctures round (puncture diameter ca. 3–4× shorter than



Figs 1, 2: *Catomus chikatunovi* n. sp., habitus: (1) holotype, male; (2) paratype, female.

interpuncture distance); lateral margins of pronotum with long sparse erect yellow hairs; prothoracic hypomera sparsely punctured and covered with long recumbent hairs; ventral anterior margin of prosternum with very dense line of long yellow hairs; prosternum sparsely punctured and covered with long erected hairs; prosternal process flattened, not prominent.

Pterothorax. Elytra oval (1.48× as long as wide), strongly convex, but inflected lateral margins visible dorsally, 1.4× as wide as head, 1.3× as wide and 1.25–1.26× as long as pronotum; strial punctures merged in entire furrows; striole sub-reduced, very



Figs 3–6: *Catomus chikatunovi* n. sp., male genitalia: (3) aedeagus ventral view; (4) aedeagus, lateral view; (5) inner sternite VIII, dorsal view; (6) spiculum gastrale, dorsal view; al – alae (extensions of apical piece); ap – apical piece, bp – basal piece, ml – median lobe; mlb – median lobe baculi. Scale bars: 1 mm (Figs 3, 4 and 6), 0.5 mm (Fig. 5).

small and short, as poorly visible impressions along suture or absent, interstriae flat, sparsely and finely punctured; inflected lateral margins with long sparse erect hairs as on pronotum. Ventral sclerites of pterothorax coarsely and sparsely punctured, densely covered with recumbent yellow hairs. Mesoventrite gently sloping before mesocoxae, but without V-shaped depression.

Legs long and slender, densely pubescent (incl. coxae) with long light hairs; protibiae with finger-like strongly drawn apex of outer margin; outer margin of tibiae with strong rasp-like punctures, which sometimes transformed to small teeth or granules; male protibiae with weakly widened transverse and short tarsomeres 1–4.

Abdomen. Abdominal ventrites coarsely and moderately densely punctured, covered with long recumbent hairs. Aedeagus typical for *Catomus*, with finely setose apical piece, long ventral alae, median lobe apically widely rounded (Figs 3, 4). Male inner sternite VIII without additional areas of sclerotization (Fig. 5). Spiculum gastrale without common stem, rods straight in apical half and weakly bent in basal half and without hook-like extensions near blades (Fig. 6).

Female (Fig. 2). Body more robust, antennae short, with only one apical antennomere extending beyond base of pronotum, antennomere 11 much shorter, 2× as long as wide, than in male. Legs short, protarsi not widened. Body length 3.6–5.1 mm, width 1.5–2.5 mm.

Holotype: ♂ **Israel**: Makhtesh Ramon, Nahal Ramon [30°36'N 34°52'E], 14.ii.1993, B. Krasnov (SMNHTAU).

Paratypes: Israel: 2♂ 1♀ same data as holotype (ZIN); 5♂ 2♀ Holot 'Agur [30°57'39"N 34°26'55"E], 2002, Y. Ziv (SMNHTAU); 2♀ Ḥolot Ḥaluza [31°04'33"N 34°26'47"E], 1.iii.2008, I. Renan (SMNHTAU); 3♀ 1spec. South Distr., Negev, Khalutsa Sands, nr. Cerem Shalom vill., SE [sic!] Be'er Sheva [Holot Haluza, near Kerem Shalom, SW Be'er Sheva', 31°08'15"N 34°23'55"E], 200 m, dunes, under plants, in roots, 22.iii.2008, D.W. Wrase (1♀ and 1 specimen, SMNS, 1♀ CMLill, 1♀ CMLang).

Notes on morphology: The new species was collected in sand dunes and has morphological adaptations to the psammophilic mode of life. The species has dense pubescence of the body with especially long erect marginal hairs. A finger-like strongly drawn apex of the outer protibial margin and long sub-erected hairs on the leg are adaptations for moving in sand. Other interesting character is the reduction of the scutellary striole, which can be related to the general miniaturization of the body.

Key to species of the genus *Catomus* from the Near East

1 Margins of pronotum and elytra with long erect sparse hairs, but dorsal side of elytra bare. Body reddish or yellowish, often translucent. [Israel] .... *chikatunovi* sp. n.

– Margins of pronotum and elytra without long erect hairs, but dorsal side of elytra can be setated. Body reddish, brown or black, non-translucent 2

2 Lateral margins of pronotum not beaded; pronotum with coarse and dense longitudinal punctation (additional character). Illustrations in Nabozhenko *et al*. (2012). [Turkey: Ankara prov.] ..... *kuesteri* (Weise, 1878)

– Lateral margins of pronotum distinctly beaded 3

3 Temples with short deep straight furrow under ventral margin of eyes. Widely distributed in the Mediterranean. [Turkey, Syria, Cyprus (everywhere on sandy coasts)] ..... *consentaneus* (Küster, 1851)
– Temples without furrow under ventral margin of eyes 4
4 Prothoracic hypomera with elongate rugose punctures to longitudinal wrinkles. Head and pronotum with dense elongate punctation. [Turkey, Syria, Lebanon, Jordan, Israel, Cyprus] ..... *hesperides* (Reiche, 1861)
– Prothoracic hypomera with round sparse punctures. Head and pronotum with round punctures or elongate punctation 5
5 Head and pronotum with elongate (longitudinal) punctures. Elytra with short erect pubescence completely or at least in apical part of elytra. [Syria, Israel, Jordan] ..... *acutipennis* (Reiche & Saulcy, 1857)
– Head and pronotum with sparse punctation of round punctures. Elytra bare. Head and pronotum with round punctures 6
6 Elytral interstriae flat, usually coarsely punctured. Male protarsi small and short, with weakly widened transverse tarsomeres 1–4. Body matt. Images in Nabozhenko *et al*. (2012). [Israel] ..... *seidlitzi* (Gebien, 1911)
– Elytral interstriae convex, very finely and sparsely punctured, or sometimes unpunctured. Male protarsi large and long, with strongly widened, but longitudinal tarsomeres 1–4. Body from weakly shiny to lacquered. Images in Nabozhenko & Grimm (2019). [SW Syria, Israel] ..... *fulvipes* (Reiche & Saulcy, 1857)

ACKNOWLEDGEMENTS

The author cordially thanks Mark Volkovitsh (ZIN), Ariel-Leib-Leonid Friedman (SMNHTAU), Wolfgang Schawaller (SMNS), Martin Lillig (Saarbrücken, Germany) and Michael Langer (Niederwiesa, Germany) for providing material, Denis Kasatkin (Rostov Branch of "VNIIKR", Rostov-on-Don, Russia), Johannes Reibnitz and Wolfgang Schawaller (Staatliches Museum für Naturkunde, Stuttgart, Germany) for preparation of the photographs, Martin Lillig and Luboš Purchart (Mendel University, Brno, Czech Republic) for valuable comments, additions and corrections. The study was funded by the Russian Foundation for Basic Research and RPF (project no. 19-54-25001) and by the basic research project of Precaspian Institute of Biological Resources of the Daghestan Federal Research Centre of the Russian Academy of Sciences, registration number AAAA-A17-117081640018-5.

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