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ULMOIDES DERMESTOIDES (CHEVROLAT, 1878) (COLEOPTERA: TENEBRIONIDAE): A NEW INVASIVE PEST OF FOODSTUFFS IN KAZAKHSTAN

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Summary. Chinese beetle *Ulomoides dermestoides* (Chevrolat, 1878) (Coleoptera: Tenebrionidae) is firstly found in the Almaty and Turkistan provinces of Kazakhstan outside the laboratory conditions. The discovery if this species in two cities of country far deposited from each other confirms its successful introduction in Central Asia.

Key words: Chinese beetle, distribution, invasion, Central Asia.

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Резюме. Китайская чернотелка *Ulomoides dermestoides* (Chevrolat, 1878) (Coleoptera: Tenebrionidae) впервые обнаружена в Алматинской и Туркестанской областях Казахстана вне лабораторных условий. Обнаружение этого вида в двух удаленных друг от друга городах страны подтверждает его успешную интродукцию в Среднюю Азию.

INTRODUCTION

The Chinese beetle *Ulomoides dermestoides* (Chevrolat, 1878), also known as Chinese weevil, black beetle, peanut beetle, cancer beetle, or asthma beetle, belong to the genus *Ulomoides* Blackburn, 1888 of the family Tenebrionidae. Like other congeners, *U. dermestoides* is a pest of grain and grain products. Chinese beetle is a wide polyphage, which is characterized by predation and cannibalism. Damages wheat, barley, rice, oats, peas, beans, corn, seeds of various plants, cereals, peanuts, flour and bakery products, animal feed, bran, dried fruits, nuts, fresh mushrooms, fruits and vegetables, potatoes, dried meat, fish and

mushrooms, tea, cork, egg powder, and bee pollen (Kosolapova, 1976; Mordkovich & Sokolov, 1999). The species is included in the list of particularly dangerous invasive pests of the European and Mediterranean Plant Protection Organization (EPPO, 2024). Live beetles are reared at laboratory and home with the purpose of alleviating or curing diseases such as asthma, Parkinson's, diabetes, arthritis, HIV and cancer (Flores et al., 2020; Deyrup et al., 2021; Ushakova et al., 2021; Caballero-Gallardo et al., 2023; Beibalaeva et al., 2023; etc.). The popularity of the beetle as a means of traditional Chinese medicine contributes to its settlement around the world. Previously, the species was known in Kazakhstan in laboratory colony only but was not found in the wild or synanthropic conditions (Temreshev et al., 2019).

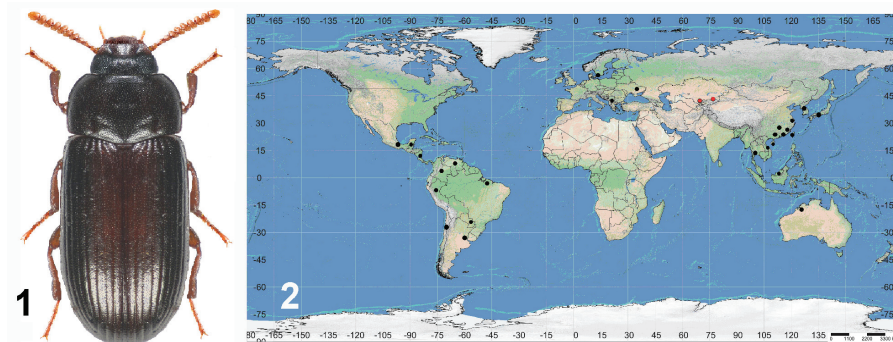
The material examined was collected in Kazakhstan in 2022. Specimens from a laboratory colony for morphological comparison were taken from the National Science Center especially dangerous infections named after Masgut Aikimbaev of Ministry of Health of the Republic of Kazakhstan. Photographs were taken with a camera Canon EOS 50 D. Descriptions and body measuring was performed using a Micromed MC var 1-C dissecting stereomicroscope and Digital microscope G 1200. Studied specimens are kept in the private collection of Temreshev (Almaty, Kazakhstan).

RESULTS

Ulomoides dermestoides (Chevrolat, 1878)

Fig 1

MATERIAL EXAMINED. **South-East Kazakhstan:** Almaty oblast, Almaty city, Bostandyk district, 43°13'16.56"N, 76°55'56.00"E, in the net of a spider *Steatoda paykulliana* (Walckenaer, 1806), 5.VII 2022, 1♂, 2♀, leg. G.E. Kozhabaeva; Almaty city, Turksib district, National Science Center especially dangerous infections, 43°20'21.73"N, 76°58'37.23"E, laboratory colony, 16.IX 2022, 10♂, 10♀, leg. I.I. Temreshev; **South Kazakhstan:** Turkistan oblast, Shymkent city, on a dead pigeon in an elevator shaft, 42°18'55.63"N, 69°35'8.26"E, 7.VIII 2022, 3♂, 4♀, leg. I.I. Temreshev; Shymkent city, Shymkent Republican railway station, on food waste near the café, 42°17'53.68"N, 69°36'31.89"E, 5.IX 2022, 5♂, 7♀, leg. I.I. Temreshev.



Figs 1–2. *Ulomoides dermestoides*. 1 – habitus of imago, dorsal view; 2 – distribution in the world (new records in Kazakhstan marks as red).

HABITUS. The beetle is dark brown, almost black. Body length 5–6 mm, width 1.5 mm. Eyes large, spherically convex. Antennae with wide club, filiform, 11-segmented. Inner surface of the tibiae (especially the fore ones) in male covered at the apex with setae longer and denser than in the female. Pronotum with 2 depressions diverging anteriorly. Elytra with longitudinal grooves. Egg elongated with oval rounded edges; creamy milky color; length of egg 0.7 mm, diameter 0.3 mm. Larvae of last instar yellow-brown; dorsal side with a light stripe along the middle. Pupae white at first, after a few days their integuments acquire an amber color; outgrowths of tergites of abdominal segments brown, 5–7 mm long. The head of the pupa bent to the ventral side, pressed to the body, not visible from above.

HABITAT. All beetles collected in synanthropic conditions, but outside the laboratory colonies, with the exception of specimens from the National Science Center especially dangerous infections in Almaty.

DISTRIBUTION. This species is widely distributed in Asia (China, Korea, Japan, Taiwan, Thailand, Malaysia, Indonesia) and introduced in Europe (Macedonia, Sweden, Ukraine), Australia, Central and South America (Lobl *et al.*, 2008; Iwan *et al.*, 2020; Cvetkovska-Gjorgjievska *et al.*, 2023). Our data confirms its successful introduction in Central Asia (Fig. 2).

NOTES. Apparently, the beetle *U. dermestoides* was deliberately brought to Kazakhstan as a traditional medicine, and then was able to penetrate into local habitats in synanthropic conditions: in stocks of grain and grain products, vegetables, fruits, and other food stocks on which it can breed. It can be expected that the species will spread not only in food storages, but also in livestock farms, poultry farms, shopping centers, homes, basements and attics.

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