

First record of *Deraeocoris ruber* (Linnaeus, 1758) and *Deraeocoris rutilus* (Herrich-Schäffer, 1838) (Hemiptera: Heteroptera: Miridae) in Uzbekistan

Dilshod Musaev*, Bakhtiyor Kholmatov, Gulnora Mirzaeva, Makhsetbay Medetov, Askar Akhmedov, Lebedeva Natalya, Mahliyo Musaeva, Shokhruz Nazarov.

Institute of Zoology Academy of Sciences Republic of Uzbekistan,
Bogishamol Str 232b., Tashkent 100053

e-mail: dilshod.musaev.86@mail.ru ORCID ID: 0000-0003-4837-3917

e-mail: biol_uz@mail.ru ORCID ID: 0000-0003-0003-9231

e-mail: mirzayeva.gulnora@mail.ru ORCID ID: 0000-0003-0003-9231

e-mail: m.j.medetov@mail.ru ORCID ID:0000-0003-4022-7552

e-mail: camponotus85@gmail.com ORCID ID:0000-0002-1864-5670

e-mail: lenatalya58@gmail.com ORCID ID: 0009-0009-9793-1509

e-mail: mahliyomusaeva89@gmail.com ORCID ID: 0000-0002-9105-2812

e-mail: nazarov.shoxruz@gmail.com ORCID ID: 0000-0002-9256-7885

*Corresponding author E-mail: dilshod.musaev.86@mail.ru

ABSTRACT: The article presents the first records of *Deraeocoris ruber* (Linnaeus, 1758) and *Deraeocoris rutilus* (Herrich-Schäffer, 1838) from Uzbekistan. These species were discovered in the mountainous regions of Uzbekistan, in the Tien Shan and Pamir-Alay mountain ranges. These records expand the known distributions of both species significantly towards Central Asia.

KEYWORDS: Heteroptera, Miridae, *Deraeocoris*, first records, Uzbekistan.

INTRODUCTION

The family Miridae Hahn, 1833 includes 1,538 genera and 11,101 species distributed across eight subfamilies (Bryocorinae, Cylapinae, Deraeocorinae, Mirinae, Orthotylinae, Phylinae, Psallopinae, and Isometopinae) worldwide (Schuh, 1995;

Cassis & Schuh, 2012; Henry, 2017). In the Palearctic Region, this family encompasses 397 genera and 2808 species. In the insect fauna of Uzbekistan, a total of 774 Heteroptera species have been recorded, classified into 35 families. Among these, the largest family is Mir-

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idae, which comprises 224 documented species (Aukema, 2018).

The subfamily Deraeocorinae consists of approximately 800 species across 120 genera globally (Schuh & Weirauch, 2020), with 117 species from 18 genera recorded in the Palearctic Region (Aukema, 2018). Currently, five species of the genus *Deraeocoris* Kirschbaum, 1856, have been identified in Uzbekistan: *D. pilipes*, *D. punctulatus*, *D. serenus*, *D. ventralis*, and *D. zarudnyi* (Popov, 1965; Aukema, 2018). Recent studies of the bug fauna in Uzbekistan have also identified new species, including *Halyomorpha halys*, *Creontiades pallidus*, *Zelus renardii*, *Eurystylus bellevoeyi*, and *Corythucha ciliata* (Grebennikov & Makhanov, 2019; Musaev et al., 2023 a,b).

We report two newly recorded species in Uzbekistan: *Deraeocoris rutilus*, collected from the mountainous regions of Surkhandarya, Jizzakh, and Tashkent provinces, and *Deraeocoris ruber*, collected from the mountainous areas of Tashkent province.

MATERIAL AND METHODS

Scientific research was conducted in 2023–2024 in the Uzbek part of the Tien Shan and Pamir mountain systems.

The species *Deraeocoris rutilus* was found at three coordinate points within the studied areas, whereas *Deraeocoris ruber* was recorded at only one location (Figure 1). The collection, storage, and preparation of bug specimens were carried out according to the methods of Golub (2012). Species identification, as well as the study of their bioecological characteristics and distribution, were based on the data from Kiritchenko (1951), Kerzhner (1997), and Popov (1965).

A 34–40 cm diameter entomological net was used for collection.

For photographic documentation of the bug specimens, a Sony Alpha macro 2.8/30 camera, a SMZ-161-TL microscope, and a Xiaomi 12x smartphone were employed.



Figure 1. Collection points of insects on the map

RESULTS

Order HEMIPTERA Linnaeus, 1758

Suborder HETEROPTERA Latreille, 1810

Infraorder CIMICOMORPHA Leston, Pendergrast & Southwood, 1954

Family MIRIDAE Hahn, 1833

Subfamily DERAEOCORINAE Douglas & Scott, 1865

Tribe DERAEOCORINI Douglas & Scott, 1865

Genus *Deraeocoris* Kirschbaum, 1856

Subgenus *Deraeocoris* Kirschbaum, 1856

Deraeocoris rutilus (Herrich-Schäffer, 1839) (Figure 2).

Material examined: Uzbekistan, Surkhandaryo region, Sherabad district, *Surkhan State Nature Reserve* (1739 m), 37.859363 N, 66.634947 E, 06.28.2023, D. Musaev leg., 1♀, 1♂; Jizzakh region, Forish district, *Nurata Reserve* (1045 m), 40.517241 N, 66.749535 E, 07.04.2024, Sh. Nazarov leg., 1♀. Tashkent region, Bo stonliq district, Gazalkent sity, *Oq rest area* (1140 m), 41.676750 N, 69.797305 E, 12.06.2024, S. Kimyonazarov leg. (*Malus* sp.), 1♂.

There are no available literature data on the distribution of *Deraeocoris rutilus* in Central Asian countries. This species was first recorded in 1996 in the northern Gilan Province of Iran (Linnavuori, 2007). Numerous scientific articles have been published on its distribution in Turkey (Önder, 1976; Çerçi & Koçak, 2016). This bug is distinguished from other species in the same genus by its black head, pronotum, and scutellum. Its legs are also black, with two white rings on the tibia. The body length is 7-8 mm for males and 6.7-7.3 mm for females (Wagner & Weber, 1964).

General distribution: **Europe:** Albania, Bosnia Hercegovina, Bulgaria, Crete, Croatia, European Türkiye, Greece, Hungary, Italy, Kosovo, Macedonia, Montenegro, Romania, Russia (ST: Caucasus), Serbia, Slovakia, Slovenia, Ukraine. **Asia:** Asian Türkiye, Azerbaijan, Cyprus, Georgia, Iran, Iraq, Israel, Jordan, Lebanon, Syria (Aukema, 2018).



Figure 2. Specimen of *Deraeocoris rutilus* (Herrich-Schäffer, 1839), Tashkent region, Gazalkent sity, *Oq tosh area*, 12.06.2024, (Photo. S. Kimyonazarov).

Material examined: Uzbekistan, Tashkent region, Bo'stanliq district, *Chimgan park* (1158 m), 41.525067 N, 70.033811 E, 26.05.2023, 2♀, 1♂, D. Musaev leg.
Distribution in Uzbekistan: Photographs taken by researcher Bobur Karimov from the Institute of Botany, Academy of Sciences of Uzbekistan, on July 12, 2023, in the Ugam-Chatkal mountains, have been uploaded to the iNaturalist database (Karimov, 2023) (Figure 3).

General distribution: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Crete, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia (CT NT ST), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. North Africa: Algeria, Morocco. Asia: Asian Türkiye, Azerbaijan, Georgia, Iran. EL (introduced): N America, Brazil (Aukema, 2018).



Figure 3. Specimen of *Deraeocoris ruber* (Linnaeus, 1758), Tashkent region, Bo'stanliq district, *Ugam-Chatqal mountains*, 12.07.2023, (Photo. B. Karimov).

CONCLUSION

The first records of two little-known species of Heteroptera in Uzbekistan are a significant contribution to the study of the suborder's biodiversity in Uzbekistan. The data shown in this article significantly supplement the information on their distribution. In this study, both species

recorded for the first time from Uzbekistan appear to have a wide distribution in Europe while in Asia they have a limited distribution including a few countries in the Middle East and Transcaucasia. Their recording from Uzbekistan indicates that the species has expended its distribution towards Central Asia.

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