

A case of transportation of *Cimex hemipterus* (Fabricius, 1803) (Insecta, Hemiptera) in Bulgaria

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Abstract. During the period of 02-09.03.2024, the author and their family stayed in a hotel infested with bed bugs in Uroa village, Unguja Island, Zanzibar. Upon returning to Bulgaria (Hrishteni village, Stara Zagota city area), one specimen of *Cimex hemipterus* (Fabricius, 1803) was found alive in the luggage. This should be the first documented record of the tropical bed bug in Bulgaria, and the possibility of transfer via increased touristic visit in tropical destinations were briefly discussed.

Key words: tropical bed bug, invasive, Europe.

Introduction

The species *Cimex hemipterus* (Fabricius, 1803), commonly known as the "tropical bed bug," is a hematophagous, obligate parasite of humans, belonging to the family Cimicidae. Although typically associated with tropical regions, reports indicate its adaptation to more temperate climates (Gapon 2016). Increased global transport and human movement have facilitated the spread of *C. hemipterus* to colder regions. Recent sightings include the United Kingdom (Reinhardt & Siva-Jothy 2006), Russia (Gapon 2016, Golub *et al.*, 2017), France (Bérenger & Pluot-Sigwalt, 2017), Italy (Tognetti *et al.* 2020) and Central Europe (Balvin *et al.*, 2021).

Results and Discussion

During the period of 02-09.03.2024, the author and their family encountered bed bug infestation at a hotel in Uroa village, Unguja Island, Zanzibar. Subsequently, upon returning to Bulgaria (Hrishteni village, Stara Zagota city area), one live specimen of *Cimex hemipterus* (Fabricius, 1803) was discovered in the luggage (Fig. 1). Precautionary measures were implemented to prevent the potential establishment of the species in the household. This should be the first documented record of a transfer of the tropical bed bug in Bulgaria.

Considering the substantial number of Bulgarian tourists visiting Zanzibar annually via direct charter flights, coupled with limited awareness regarding bed bugs among travelers, it is plausible that the species has been introduced to Bulgaria. The ability of *C. hemipterus* to thrive in heated environments, even in colder regions, further supports this hypothesis. Future efforts should focus on not only controlling infestations in hotels in Zanzibar but also implementing rigorous inspection and treatment protocols for luggage and imported goods. Moreover, public awareness campaigns are essential to educate individuals about the risks associated with bed bugs and the challenges of eradicating established invasive populations.



Fig. 1. A male specimen of *Cimex hemipterus* from the hotel room in Uroa village, Zanzibar (photographed in ethanol).

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References

- Balvín, O., Sasínková, M., Martinu, J., Nazarizadeh, M., Bubová, T. Booth, W., Vargo, E & Štefka, J. (2021) Early evidence of establishment of the tropical bedbug (*Cimex hemipterus*) in Central Europe. *Medical and Veterinary Entomology*, doi: 10.1111/mve.12522.
- Bérenger, J.-M. & Pluot-Sigwalt, D. (2017) Présence en France de la Punaise de lit tropicale, *Cimex hemipterus* (Fabricius, 1803) (Hemiptera, Heteroptera, Cimicidae). *Bulletin de la Société entomologique de France*, 122(4): 423-427.
- Gapon, D. (2016) First records of the tropical bed bug *Cimex hemipterus* (Heteroptera: Cimicidae) from Russia. *Zoosystematica Rossica*, 25(2): 239-242.
- Golub, V., Aksenenko, E., Soboleva, V. & Kornev, I. (2020) New Data on the Distribution of the Tropical Bed Bug *Cimex hemipterus* and the Western Conifer Seed Bug *Leptoglossus occidentalis* (Heteroptera: Cimicidae, Coreidae) in the European Part of Russia. *Russian Journal of Biological Invasions*, 11(2): 97-100.
- Reinhardt, K. & Siva-Jothy, T. (2006) Biology of the Bed Bugs (Cimicidae). *Annual Review of Entomology*, 52: 351-374.
- Tognetti, L., Cinotti, E., Pianigiani, E. & Rubegni, P. (2020) Infestation by the tropical bedbug *Cimex hemipterus* (Hemiptera: Cimicidae): first report in Italy. *European Academy of Dermatology and Venereology*, 34: 1-49.