

Short communication

***Nezara viridula* (Linnaeus, 1758) (Hemiptera: Heteroptera: Pentatomidae): confirmed occurrence in the Czech Republic**

PETR KMENT^{1*}, ROMAN VRBÍČEK², JAN RAŠKA³

¹ Department of Entomology, National Museum, Cirkusová 1740, CZ-193 00 Praha 9 – Horní Počernice, Czech Republic; e-mail: sigara@post.cz

² Soběsuky 5, CZ-768 02 Zdounky, Czech Republic; e-mail: RomanVrbicek@seznam.cz

³ Department of Plant Protection, Faculty of Agrobiological Sciences, Czech University of Life Sciences Prague, Kamýcká 129, CZ-165 00 Praha-Suchbátka & Department of Zoology, Faculty of Science, Charles University, Viničná 7, CZ-128 44 Praha 2, Czech Republic; e-mail: janrsk@gmail.com

*corresponding author

Abstract. We confirm the occurrence of the Southern Green Stink Bug *Nezara viridula* (Linnaeus, 1758) (Pentatomidae: Pentatominae: Nezarini) in the Czech Republic. We provide additional data from Moravia and its first records from Bohemia, confirming its successful overwintering and breeding in the country conditions. *Nezara viridula* seems to be already established species in the Czech Republic.

Key words: southern green stink bug, Nezarini, faunistics, distribution, alien species, Czech Republic, Bohemia, Moravia.

The Southern Green Stink Bug, *Nezara viridula* (Linnaeus, 1758) (Pentatomidae: Pentatominae: Nezarini), is one of the most important Heteroptera pest species (Panizzi et al. 2000; Esquivel et al. 2018). It is widespread in tropical and subtropical regions of all continents between ca. 45°N and 45°S, and its distribution has recently been expanding due to global warming (Todd 1989; Panizzi et al. 2000; Musolin 2007; Rabitsch 2010; Esquivel et al. 2018).

In Europe, the species has been known for a long time from the Mediterranean, but since the 1950s it has been spreading northwards, recently reaching Central Europe (e.g., Rabitsch 2008, 2016; Větek & Rédei 2014; Hemala & Kment 2017; Esquivel et al. 2018; Gierlasiński & Sokołowski 2019). In the Czech Republic, the species was first documented in November 2019 when one specimen was found in Drnholec (southern Moravia) under the bonnet of a car which had returned from Hungary only six days before (Kment & Vlk 2019).

Material examined

CZECH REPUBLIC: **Bohemia centr.:** Praha-Libeň, Palmovka, 'Pod plynojemem' allotment garden (5952), 50° 05'59"N 14°28'26"E, ca. 210 m a. s. l., 18.ix.2020, 1 male, 2 females, 1 L5, 2 L2, on *Solanum lycopersicum*, J. Ne-topilová lgt., P. Kment det., coll. National Museum, Pra-

gue; Praha-Nové Město, botanical garden of Charles University (5952), 50°04'16.104"N 14°25'18.156"E, ca. 207 m a. s. l., 8.x.2020, 5 L5 1 L3, on *Althaea officinalis*, J. Raška lgt., partim observ. et det., P. Kment revid., 4 L5 in coll. National Museum, Prague. **Moravia centr.:** Soběsuky, house No. 5 (6770), 49°14'2.949"N 17°21'35.009"E, ca. 340 m a.s.l., 8.iv.2020, 1 spec. climbing sunlit external wall of house at about 14.30 hrs (Fig. 1), R. Vrbíček observ. et det., R. Lupoli and P. Kment revid.; Rokytnice (6570), ca. 49°27'55"N, 17°23'12"E, 14.xi.2020, 1 spec., S. Kosinská photographed, I. Čepička det., P. Kment revid. **New record for Bohemia.**

Considering the collecting circumstances, Kment & Vlk (2019) interpreted the Drnholec record as an accidental import and *N. viridula* as a species not yet established in the Czech Republic. The location of the photographed specimen from Soběsuky (which was in winter colouration – Fig. 1) is far from any traffic corridors or shopping centres. Moreover, the specimen was observed during the 'lockdown' declared due to the Covid-19 pandemic (in force from March 12, 2020) which included border shutdown and restriction of public movement.

Considering the circumstances, there is no evidence that the specimen observed in Soběsuky was freshly introduced, and its winter colouration suggests the possibility that it had successfully overwintered at

this locality. Another finding from central Moravia was documented in Rokytnice in November 2020 by a photograph posted on FaceBook.

In September and October 2020 two breeding populations of *N. viridula* were discovered in the centre of Prague. The first one was feeding on tomatoes in an allotment garden in Libeň; the population included larvae of various instars and adults, some of them not fully sclerotized. The second one was represented only by a group of six larvae collected on marsh-mallow (*Althaea officinalis*) in the botanical garden of the Charles University. These records suggest that *N. viridula* is already established in the Czech Republic.

Acknowledgements

We are indebted to Jana Netopilová (Praha, Czech Republic) for information and specimens documenting the record in Praha-Libeň, and to Ivan Čepička (Faculty of Science, Charles University, Praha) for discovering the record from on FaceBook. The second author is indebted to Roland Lupoli (Fontenay-sous-bois, France) for help with identification of the photograph. This work received support from the Ministry of the Culture of the Czech Republic (DKRVO 2019–2023/5.I.c, National Museum, 00023272).



Fig. 1. Southern green stink bug, *Nezara viridula* (Linnaeus, 1758), specimen with winter colouration from Soběsuky (photo: R. Vrbíček).

References

- Esquivel J. F., Musolin D. L., Jones W. A., Rabitsch W., Greene J. K., Toews M. D., Schwertner C. F., Grazia J., McPherson R. M. 2018. *Nezara viridula* (L.), pp. 351–424. [in:] McPherson J. E. (ed.). *Invasive stink bugs and related species (Pentatomidae): Biology, higher systematics, semiochemistry, and management*. CRC Press, Taylor & Francis Group, Boca Raton, London, New York, xix + 819 pp.
- Gierlasiński G., Sokołowski T. 2019. *Nezara viridula* (Linnaeus, 1758) (Hemiptera: Heteroptera: Pentatomidae) w Polsce. (*Nezara viridula* (Linnaeus, 1758) (Hemiptera: Heteroptera: Pentatomidae) in Poland). *Heteroptera Poloniae – Acta Faunistica* **13**: 9–11 (in Polish, English summary).
- Hemala V., Kment P. 2017. First record of *Halyomorpha halys* and mass occurrence of *Nezara viridula* in Slovakia. *Plant Protection Science* **53**: 247–253.
- Kment P., Vlk R. 2019. První nález invazní kněžice zeleninové (*Nezara viridula*) (Hemiptera: Heteroptera: Pentatomidae) v České republice. (First record of the alien Southern Green Stink Bug (*Nezara viridula*) (Hemiptera: Heteroptera: Pentatomidae) in the Czech Republic). *Klapalekiana* **55**: 207–211 (in Czech, English summary).
- Musolin D. L. 2007. Insects in a warmer world: ecological, physiological and life-history responses of true bugs (Heteroptera) to climate change. *Global Change Biology* **13**: 1565–1585.
- Panizzi A. R., McPherson J. E., James D. G., Javahery M., McPherson R. M. 2000. Stink bugs (Pentatomidae), pp. 421–474. [in:] Schaefer C. W., Panizzi A. R. (eds): *Heteroptera of economic importance*. CRC Press, Boca Raton, 828 pp.
- Rabitsch W. 2008. Alien true bugs of Europe (Insecta: Hemiptera: Heteroptera). *Zootaxa* **1827**: 1–44.
- Rabitsch W. 2010. True bugs (Hemiptera, Heteroptera). Chapter 9.1, pp. 407–433. [in:] Roques A., Kenis M., Lees D., Lopez-Vaamonde C., Rabitsch W., Rasplus J.-Y., Roy D. (eds): *Alien terrestrial arthropods of Europe*. *BioRisk* **4(1)**: 1–1028.
- Rabitsch W. 2016. Notizen zur Wanzenfauna (Hemiptera: Heteroptera) von Wien, mit fünf Neufunden für Österreich. *Beiträge zur Entomofaunistik* **17**: 39–54.
- Todd J. W. 1989. Ecology and behavior of *Nezara viridula*. *Annual Review of Entomology* **34**: 273–292.
- Vétek G., Rédei D. 2014. First record of the southern green stink bug, *Nezara viridula*, from Slovakia (Hemiptera: Heteroptera: Pentatomidae). *Klapalekiana* **50**: 241–245.



This work is licensed under a Creative Commons Attribution 4.0 International License
<http://creativecommons.org/licenses/by/4.0/>

Received: 13 December 2020

Accepted: 8 February 2021