



FIRST OR RARE RECORDS OF HETEROPTERA SPECIES IN SLOVENIA

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Abstract – Four species are recorded for Slovenia for the first time: *Xylocoris galactinus* (Fieber), *Pachytomella passerinii* (A. Costa), *Lygaeus creticus* Lucas and *Picromeris conformis* (Herrich-Schaeffer). *Heterocordylus erythropthalmus* (Hahn) was recorded earlier, but is absent from national checklists. *Monosteira unicastata* (Mulsant & Rey) is found in Slovenia for the first time without doubt as the record for Virovitica refers to Croatia. *Halyomorpha halys* (Stål) is an invasive alien species, already established in Nova Gorica. One species, *Phytocoris hirsutulus* Flor, is omitted from the list of Slovenian Heteroptera due to misidentification.

KEY WORDS: Hemiptera, Heteroptera, fauna, Slovenia

Izveček – PRVI ALI REDKI PODATKI O VRSTAH STENIC (HETEROPTERA) V SLOVENIJI

Štiri vrste so prvič najdene v Sloveniji: *Xylocoris galactinus* (Fieber), *Pachytomella passerinii* (A. Costa), *Lygaeus creticus* Lucas in *Picromeris conformis* (Herrich-Schaeffer). Vrsta *Heterocordylus erythropthalmus* (Hahn) je že bila zabeležena, a manjka v pregledih vrst v državi. Vrsta *Monosteira unicastata* (Mulsant & Rey) je v Sloveniji prvič najdena brez dvoma, saj podatek za Virovitico pripada Hrvaški. *Halyomorpha halys* (Stål) je invazivna tujerodna vrsta, ki se je že ustalila v Novi Gorici. Ena vrsta, *Phytocoris hirsutulus* Flor, je umaknjena s seznama slovenskih stenic zaradi napačne določitve.

KLJUČNE BESEDE: Hemiptera, Heteroptera, favna, Slovenija

Introduction

Since our last contribution to the faunistics of Slovenian Heteroptera (Gogala et al. 2016), a new alien invasive species was found in Slovenia by M. & D. Jurc (2017): *Corythucha arcuata* (Say, 1832). Another alien invasive species, *Halyomorpha halys* (Stål, 1855), was found in Nova Gorica by the Institute of agriculture and forestry Nova Gorica (Rot et al. 2018). We have also detected some species for the first time in Slovenia. Several of them were found by Janez Kamin on containers for waste in front of his home in Nova Gorica. The containers of yellow and other colours (green, blue and white) may act as yellow traps, well known to attract insects, or, maybe, bugs were discarded into containers together with various plant material. Amateur nature photographers Duša Vadnjak and Miroslav Kastelic also contributed two important finds. Specimens, photographed first, were later collected in the same spots. We report here also on a correction of identification which caused one species, *Phytocoris hirsutulus* Flor, 1861, to be omitted from the list of Slovenian Heteroptera species.

Specimens, identified by A. Gogala, are preserved in the collection of the Slovenian Museum of Natural History in Ljubljana (PMSL). To avoid misinterpretation of the localities, coordinates of the 10 x 10 km UTM (Universal Transverse Mercator) grid are added (Sivec 1980).

List of species

Tingidae

Monosteira unicastata (Mulsant & Rey, 1852)

Koper, Bertoki, Bertoška bonifika, VL04, 1. 8. 2016, 1 adult, photo Miroslav Kastelic, 27. 8. 2016, 1 nymph, photo Miroslav Kastelic, 3. 5. 2017, 1 ♀ on *Populus*, M. Kastelic leg., 8. 5. 2017, 2 ♀ 3 ♂, M. Kastelic leg.

The species was reported for Gorica (Gorizia) by Montandon (1886), but only now undoubtedly found on the Slovenian coast. Miroslav Kastelic first photographed an adult and a nymph and later collected specimens on a poplar tree which is known as a foodplant of the species. It can be found also on other Salicaceae, Betulaceae and arborescent Rosaceae (Péricart 1983). It is an important pest of almond trees in the Mediterranean area (Neal & Schaefer 2000, Sánchez-Ramos et al. 2015) and was introduced to North America (Scudder 2012). The record of this species for Slovenia by Péricart (1983) after Horváth is wrong. The locality Veröcze (Virovitica) is in Slavonia, Croatia.

Anthocoridae

Xylocoris galactinus (Fieber, 1836)

Nova Gorica, Ledine, UL99, 10. 7. 2017, 1 ♀, J. Kamin leg., 14. 8. 2017, 1 ♀, J. Kamin leg.

This predaceous species lives among fermented vegetation with high humidity and temperature like compost, manure or hay heaps and also in grain silos where

small nymphs attack mites, while adults and larger nymphs prefer larvae of the coleopteran *Laemophloeus ferrugineus* (Péricart 1972). Two specimens were found by Janez Kamin on containers for waste in front of his home in Nova Gorica.

Miridae

Pachytomella passerinii (A. Costa, 1842)

Nova Gorica, Ledine, UL99, 22. 11. 2016, 1♀, 27. 11. 2016, 5♀, 22. 4. 2017, 1♀, 25. 4. 2017, 1♀, 10. 11. 2017, 1♂, J. Kamin leg.

Mediterranean species with brachypterous females and macropterous males, living on *Thapsia garganica* (Wagner 1973). Janez Kamin found several females and one male on containers for waste in front of his home in Nova Gorica. The species was known from Trieste in Friuli-Venezia Giulia (Italy), Dalmatia and Kvarner island Lošinj (Croatia) (Namyatova 2010, Furlan & Gogala 1995), but had not been recorded in Slovenia before. In Slovenia, a similar species *Pachytomella parallela* is also present, but the distribution areas of both species are well separated as the latter species is known only from the Alps (Gogala 2006).

Heterocordylus erythrophthalmus (Hahn, 1833)

Brezje pri Dobrovi, 337 m, VL49, 16. 6. 2016, 1♀, M. Zdešar leg.

A rare Euro-Mediterranean species living on *Rhamnus cathartica* (Wagner 1952). One specimen was collected by Marko Zdešar in Brezje near Dobrova, Central Slovenia. This is not the first record for Slovenia, as Wagner (1952) listed Logatec (Loitsch in Krain) in the distribution of the species. However, this record was overlooked in later national checklists like Gogala (2006).

Lygaeidae (s. l.)

Lygaeus creticus Lucas, 1854

Koper, Olmo, VL04, 14. 6. 2016, on *Lavandula*, 1 adult, photo Duša Vadnjal, 18. 3. 2018, on *Lavandula*, 1♂, Duša Vadnjal leg., 26. 3. 2018, 1 adult, photo Duša Vadnjal

Nova Gorica, Ledine, UL99, 10. 4. 2018, 1♀, J. Kamin leg., 26. 4. 2018, 1♀, J. Kamin leg.

Ponto-Mediterranean species living principally on *Nerium oleander* and found also on some *Sorbus* species. In recent years it was reported for the first time from several Italian regions, France and Albania (Cianferoni et al. 2018, Cornuel-Willermoz & Dusoulhier 2017, van der Heyden 2017). So it seems it is spreading to new territories. One specimen was photographed on lavender in the garden by Duša Vadnjal in Koper at the Slovene coast in 2016 and then also collected in 2018. In 2018, two specimens were collected also in Nova Gorica by Janez Kamin. These are first records for the country.

Pentatomidae

Picromerus conformis (Herrich-Schaeffer, 1841)

Nova Gorica, UL99, 17. 3. 2017, 1♂, J. Kamin leg.

Ponto-Mediterranean predaceous species, distributed from Switzerland, Italy and Algeria to Azerbaijan (Péricart 2010). One specimen was collected by Janez Kamin in Nova Gorica. As the species is recorded for all neighbouring countries, the record for Slovenia is not surprising.

***Halyomorpha halys* (Stål, 1855)**

Nova Gorica, Ledine, UL99, 20. 9. 2017, 1♀, J. Kamin leg., 5. 10. 2017, 1♂, J. Kamin leg., 12. 10. 2017, 1♂, J. Kamin leg.

The brown marmorated stink bug is native to East Asia (Japan, Korea and eastern China) (Rider 2006). After the introduction to North America (USA) in 1996, it was detected in Europe first in 2004 in Switzerland and Liechtenstein. It spread fast and was detected in Germany and Greece in 2011 (Milonas & Partsinevelos 2014), in France and Italy in 2012, in Serbia in 2015 (Šeat 2015), in Spain in 2016 (Dioli et al. 2016). It is also known from Austria, Hungary, Romania and Russia. *Halyomorpha halys* is extremely polyphagous and a pest attacking numerous agricultural and ornamental plants (Milonas & Partsinevelos 2014, Maistrello et al. 2017). When searching for wintering shelters, it enters houses. As it had been already widely distributed in northern Italy, it was expected to reach Slovenia as well. Nova Gorica, situated at the border, is a place where several invasive species had already been detected. *Halyomorpha halys* was found there by the Institute of agriculture and forestry Nova Gorica (Kmetijsko gozdarski zavod Nova Gorica) (Rot et al. 2018). We publish here some additional records from the same city. Janez Kamin collected also nymphs of all five stages in front of his home and reared two of them into adulthood.



Fig. 1: *Monosteira unicostata* (Mulsant & Rey), a male from Koper, photo A. Gogala.

Fig. 2: *Heterocordylus erythropt-halmus* (Hahn), a female from Brezje, photo A. Gogala.



Fig. 3: *Lygaeus creticus* Lucas on *Lavandula* in Koper, photo Duša Vadnjaj.



Fig. 4: *Picromerus conformis* (Herich-Schaeffer), a male from Nova Gorica, photo Janez Kamin.



Fig. 5: *Halyomorpha halys* (Stål), a female from Nova Gorica, photo Janez Kamin.

Species omitted from the list of Slovenian Heteroptera

Miridae

Phytocoris hirsutulus Flor, 1861

Floren & Gogala, 2002: misidentification!

Because the ecological preferences of the species do not correspond with the primary forest, two preserved specimens were reexamined by Helga Simon who concluded the correct identification of the specimens from Rajhenavski Rog is *Phytocoris dimidiatus* Kirschbaum, 1856. This species was already known from the area. *Phytocoris hirsutulus* is thus omitted from the list of Slovenian Heteroptera.

Conclusions

Four species are recorded for Slovenia for the first time: *Xylocoris galactinus* (Fieber), *Pachytomella passerinii* (A. Costa), *Lygaeus creticus* Lucas and *Picromerus conformis* (Herrich-Schaeffer). *Heterocordylus erythrophthalmus* (Hahn) was recorded earlier (Wagner 1952), but is absent from national checklists like Gogala (2006). *Monosteira unicastata* (Mulsant & Rey) was recorded for Gorica (Gorizia) on the border with Italy (Montandon 1886) and is now found in Slovenia for the first time without doubt as the record for Virovitica (Péricart 1983) refers to Croatia. *Halyomorpha halys* (Stål) is an invasive alien species, already established in Nova Gorica (Rot et al. 2018) and expected to expand its distribution area further. One species, *Phytocoris hirsutulus* Flor, is omitted from the list of Slovenian Heteroptera due to misidentification. Together with recently found *Corythucha arcuata* (Say) (M. & D. Jurc 2017), the number of Heteroptera species recorded for the territory of Slovenia reached 751.

Acknowledgements

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