

**FIRST RECORD OF THE NEARCTIC LEAFHOPPER
ERASMONEURA VULNERATA (FITCH, 1851) [HEMIPTERA,
CICADOMORPHA: CICADELLIDAE] IN SLOVENIA**

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Abstract - In autumn 2010 the first findings of the North American leafhopper *Erasmoneura vulnerata* (Fitch, 1851) were recorded in Slovenia. Fairly large populations were observed in various localities around Nova Gorica especially on *Vitis labrusca* 'Isabella' and *Cercis siliquastrum*. Short description of the species and its biology are given.

KEY WORDS: *Erasmoneura vulnerata*, Neozoa, Typhlocybae, grapevine pest, Slovenia

Izveček - POJAVLJANJE NEARKTIČNEGA ŠKRŽATKA *ERASMONEURA VULNERATA* (FITCH, 1851) [HEMIPTERA, CICADOMORPHA: CICADELLIDAE] V SLOVENIJI

V jeseni 2010 je bila v Sloveniji prvič ugotovljena navzočnost severnoameriškega škržatka *Erasmoneura vulnerata* (Fitch, 1851). Precej številčne populacije so bile ugotovljene na več lokalitetah v okolici Nove Gorice predvsem na trtah sorte 'Izabela' (*Vitis labrusca*) in navadnem jadicovcu. Podan je kratek opis vrste in njene biologije.

KLJUČNE BESEDE: *Erasmoneura vulnerata*, neozoa, Typhlocybae, vinska trta, škodljivec, Slovenija

Introduction

Erasmoneura vulnerata (Fitch, 1851) (Syn: *Erythroneura vulnerata*) is a North American leafhopper of the subfamily Typhlocybae that was introduced into Europe fairly recently. It was recorded first in 2004 in the region of Veneto in Northern Italy, and later found also in Friuli-Venezia Giulia (Duso & al., 2005).

Therefore, its further spread towards the Slovenian border was just a matter of time, since it moves very easily by flying. Occasionally it may also spread as a stowaway by cars. In late September 2010 many specimens were accidentally swept from a Judas tree in the locality of Pristava near Nova Gorica, just some hundred meters away from the Italian border. After that, several additional localities around Nova Gorica were found to be infested. The examined populations were rather large suggesting that it may have spread in this area at least a year before. Occasional checks made in the coastal region of Slovenia in the autumn of 2010 did not confirm its presence in that area yet.

Examined material

Nova Gorica - Pristava (UL99), 12.9.2010 on *Cercis siliquastrum*; Nova Gorica - Pristava (UL99), 19.9.2010 on *Vitis labrusca* and *V. vinifera*; Nova Gorica (UL99), 2.10.2010; Kromberk (UL99), 11.10.2010; Bilje (UL98), 18.10.2010, always on *V. labrusca*.

The voucher material is deposited in the author's collection.

Description

A good description of *E. vulnerata* with drawings of male genital details is given by Dietrich & Dmitriev (2010). This is a small leafhopper of about 3 mm (2.7 – 3.2) body size. In terms of size it is very similar to *Empoasca vitis* (Goethe) or *Zygina rhamni* Ferrari both of which are also commonly found on vine. It is, however, eas-

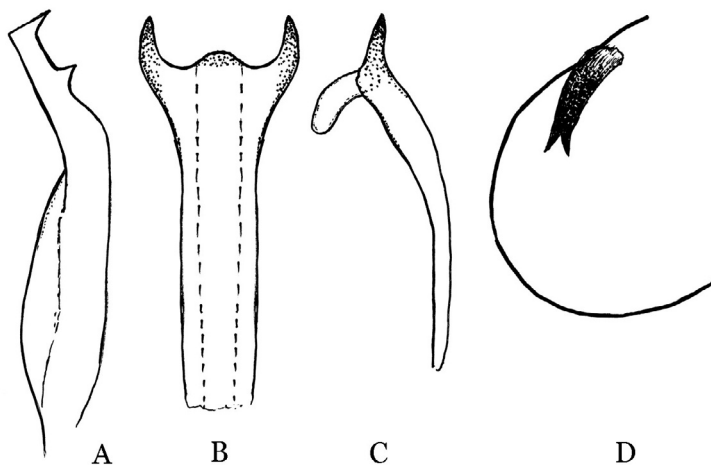


Fig. 1: Male genitalia: A – stylus, B – aedeagus (ventral view), C – aedeagus (lateral view), D – left pygofer with a dorsal appendage.

Sl. 1: Genitalije samca: A – stilus, B – aedeagus (ventralno), C – aedeagus (od strani), D – leva genitalna loputa (pygofer) s priveskom.



Fig. 2: *Erasmoneura vulnerata* – imago

Sl. 2: *Erasmoneura vulnerata* – odrasla žival



Fig. 3: *Erasmoneura vulnerata* – imago

Sl. 3: *Erasmoneura vulnerata* – odrasla žival



Fig. 4: *E. vulnerata* – nymph

Sl. 4: *E. vulnerata* – nimfa



Fig. 5: *E. vulnerata* – speckled lesions on grapevine leaves.

Sl. 5: *E. vulnerata* – točkaste poškodbe na listih vinske trte.

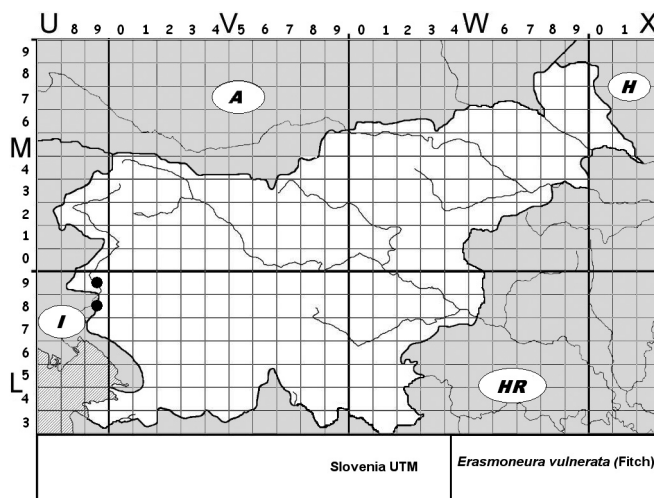


Fig. 6: *E. vulnerata* - current known distribution in Slovenia.

Sl. 6: *E. vulnerata* – trenutno znana razširjenost v Sloveniji.

ily distinguishable from both species by brown colours that prevail on body and wings (figs. 2 and 3). In coloration there is some similarity with *Scaphoideus titanus* Ball also feeding on vine, which is however almost twice larger (4.8 – 5.4 mm). According to Girolami & al. (2005) a seasonal colour dimorphism occurs. Summer populations bear bluish white patches on fore wings with a red transversal vein at the base of the first apical cell. At the end of the season wings become more greenish brown and transversal veins often turn whitish. Macroscopically this species could also be confused with some indigenous *Arboridia* species, which may occasionally feed on the same host plants.

Head slightly narrower than pronotum. Fore margin of vertex strongly produced and angulate, medially and sublaterally with three pale longitudinal stripes on a brownish-red background; anteclypeus brown or black. Prothorax and scutellum reddish brown and irregular white or bluish marbled. Abdomen dark brown, sternites sometimes reddish in teneral specimens.

Male genitalia (fig. 1 A-D): Pygofer lobe rounded, with a dorsal appendage, which is bifurcated apically. Subgenital plates protrude considerably beyond the distal margin of pygofer, laterally constricted in the basal section, macrochaetae present along the margin, uniseriate, surface macrochaetae absent; styles free, their apex three-pointed. Aedeagus in dorsal view symmetrical, distally trilobate with prominent hornlike lateral processes; in lateral view bent dorsally, bearing a dorso-caudally directed, apically rounded process; dorsal apodeme of aedeagus with ligaments connected to pygofer appendages; anal tube without processes.

Larvae and nymphs brown with fine yellowish marbling; vertex and thorax dorsoventrally flattened (fig. 4).

Life cycle

E. vulnerata accomplishes at least two generations a year. However, some recent observations in Veneto (North Italy) suggest that three generations would also be possible (Girolami & al., 2006). Adults overwinter under leaf litter or plant debris. In vineyards they appear in spring at the time of bud burst, but the egg-laying peak of the first generation is not before June, the peak of the second generation is in August. Females oviposit into the tissue of larger veins, mainly into the leaf midrib. Larvae and adults mainly populate the upper leaf surface, while exuviae were mainly found on lower leaf surfaces (Duso & al., 2005).

Host plants and damages

Vitis vinifera is recorded as the most suitable host plant. However, in our occasional checks in the infested area in autumn 2010 we were able to pick up only very few individuals from this host plant. Many other host plants have been recorded in the literature (Dietrich & Dmitriev, 2010). On the basis of our own observations *Vitis labrusca* seems to be preferred. Maybe this is also because the use of insecticides on this vine is not usual. Also Judas tree (*Cercis siliquastrum*) seems to be a very attractive host plant at least for adults.

Larvae and adults take food from leaf mesophyll causing speckled whitish lesions on leaves, similar to those provoked by the indigenous *Zygina rhamni* (fig. 5). In case of heavy infestation, many small lesions fuse together forming larger speckles of discoloured tissue. Such leaves sometimes curl down and may fall prematurely. The feeding is also associated with the production of black excrements (Paxton &

Thorvilson, 1996). In our observations this appearance was particularly obvious on leaves of Judas tree.

E. vulnerata is considered as a minor pest of grapevine in Europe given that it may occur very abundantly on this host plant (Girolami & al., 2006). In the older American literature it is recorded even as an occasional serious pest on this host plant (Beamer in Duso & al., 2005).

References

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