

## First record of Nearctic issid planthopper *Thionia simplex* (Hemiptera: Fulgoroidea: Issidae) from Europe

## Первое указание неарктической иссиды *Thionia simplex* (Hemiptera: Fulgoroidea: Issidae) из Европы

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The Nearctic issid species *Thionia simplex* (Germar, 1830) is recorded for the first time from Europe. Other alien Auchenorrhyncha species in Europe are listed and discussed.

Неарктическая иссида *Thionia simplex* (Germar, 1830) впервые указана из Европы. Перечислены и обсуждены другие случаи завозов в Европу цикадовых.

**Key words:** alien species, U.S.A., Europe, Italy, Auchenorrhyncha, Fulgoroidea, Issidae, Issini, planthopper, new record

**Ключевые слова:** инвазивный вид, США, Европа, Италия, Auchenorrhyncha, Fulgoroidea, Issidae, Issini, фулгориодные цикадовые, новое указание

### INTRODUCTION

Italy has become the “gateway for New World planthoppers in Europe” since the last century as several species which are adventive for Europe were first recorded in this country, e.g. *Metcalfa pruinosa* (Say, 1830) from Flatidae and *Acanalonia conica* (Say, 1830) from Acanaloniidae (Zangheri & Donadini, 1980; D’Urso & Uliana, 2006). Also a ricaniid species *Ricania speculum* (Walker, 1851) from the Orient was first recorded for Europe in Italy (Mazza et al., 2014).

Below we report the first representative of the Nearctic Issidae, *Thionia simplex* (Germar, 1830), found in Europe. This species was first collected in Lombardia in 2012 and identified using illustrations and

description (including of the male genitalia) given by Doering (1938).

*Thionia simplex* (Germar, 1830) was described from Kentucky in U.S.A. (Germar, 1830). Currently this species is recorded from 19 states in eastern U.S.A. (Bartlett et al., 2014). The genus *Thionia* Stål, 1859 belongs to the tribe Issini Spinola, 1839 (= Thioniini Melichar, 1906) sensu Gnezdilov (2009) and currently comprises 72 extant species, most of them distributed in the Neotropic Realm, with just eight species known from the Nearctic Realm (U.S.A.) (Gnezdilov, 2013; Bartlett et al., 2014).

*Thionia simplex* is known as a polyphagous species in the U.S.A., where it has been collected from 12 host plants in ten families (Wheeler & Wilson, 1988). It may become a serious pest in Europe as has already happened with *Metcalfa pruinosa* which spread from Italy east to southern Russia and Republic of Korea and west to Spain and has

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became a serious pest on many plants (Lucchi, 1997; Gnezdilov & Sugonyaev, 2009; Kim et al., 2011; Preda & Skolka, 2011).

## MATERIAL AND METHODS

The material examined is deposited in the private collection of Mr Francesco Poggi, Missaglia, Italy (CFP) and in the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia (ZIN).

The photos were taken by Leica MZ 95 with camera Leica DFC 290 and then assembled with Helicon Focus 5.3 and Adobe Photoshop CS6.

Superfamily **FULGOROIDEA**

Family **ISSIDAE**

Subfamily **ISSINAE**

Tribe **ISSINI**

Genus *Thionia* Stål, 1859

*Thionia simplex* (Germar, 1830)  
(Figs 1–3)

*Material examined.* **Italy, Lombardia**, 20 km N of Milan, Marezzo (LC), 350 m: 3 females, 2.IX.2012, F. Poggi leg. (CFP); 2 males, 1 female, 15.IX.2012, F. Poggi leg. (CFP); 5 males, 6.IX.2014, F. Poggi leg. (ZIN); 5 males, 1 female, 6.IX.2014, F. Poggi leg. (CFP).

*Remarks.* Nine males and one female from the material listed above were collected 6 September 2014 on a yellow outside house wall, one male was collected 6 September 2014 at light, and two males and four females were collected since 2 to 15 September 2012 on *Ulmus laevis* Pall. No nymphs were collected.

## DISCUSSION

Transcontinental invasions are very exceptional for the Issidae as a whole. Up to now there is just one issid species which has crossed the Atlantic Ocean. This South European species, *Agalmatium bilobum* (Fieber, 1877), was found in California, U.S.A. Probably it has been introduced with grapevines

(Gnezdilov & O'Brien, 2006). One Western Palaearctic species, *Issus coleoptratus* (Fabricius, 1781), has been found on Saint Helena Island in the Atlantic Ocean (Synave, 1976), and the Indo-Malayan *Thabena brunifrons* (Bonfils, Attie et Reynaud, 2001) has been found on Reunion Island in the Indian Ocean (Bonfils et al., 2001; Gnezdilov, 2009, 2013). Two more Indo-Malayan species formally described from Europe (Fieber, 1876; Gnezdilov et al., 2011), *Thabena fisisala* (Fieber, 1876) and *Thabenula sulcata* (Fieber, 1876), either resulted from labeling errors or reflected actual cases of movement of Indo-Malayan species to Europe by sea (Gnezdilov, 2013). Other planthopper, the species of the family Caliscelidae Amyot et Serville, *Caliscelis bonellii* (Latreille, 1807), described from Italy, also was introduced from Southern Europe to California, U.S.A. (O'Brien, 1967).

In Italy *Thionia simplex* (Germar) was collected on *Ulmus laevis* Pall. (Ulmaceae). In the U.S.A. this species was also recorded from an elm, *Ulmus alata* Michx. (Wheeler & Wilson, 1988). However during two years of an observation (September 2012 – September 2014) no nymphs were found in Italy at the place of invasion. This can indicate several invasions by imago from the U.S.A. to Italy with any cargos, probably some ornamental plants, without full development and hibernation in Europe. However it can also be caused by a lack of effective methods for finding nymphs. It is noteworthy that the collecting locality of *T. simplex* is the same as for another Nearctic Auchenorrhyncha, the leafhopper from Cicadellidae: Coelidiinae, *Jikradia olitoria* (Say, 1830), also recently found in Europe (Nielson et al., 2014). Further study is needed to investigate the life cycle of *T. simplex* and its possible pest importance in Italy and Europe.

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