ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION

Newsletter

of the EPPO Network of experts working on surveillance, monitoring, and control of the Emerald ash borer, *Agrilus planipennis*

NO. 1

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Content of the Newsletter

The webpage of the Network:
https://www.eppo.int/RESOURCES/special_projects/agrilus_planipennis_network

A photo of *Agrilus planipennis*: Courtecy of Dr. Eduard Jendek.

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1. Introduction

How it started

In October 2022, the Panel on Quarantine Pests for Forestry of the European and Mediterranean Plant Protection Organization (EPPO) decided to establish a Network of experts working on surveillance, monitoring, and control of the Emerald ash borer, *Agrilus planipennis*. This Network was established in association with an EPPO-EU project. Originally, it was planned that in the framework of the project, a physical meeting would be organized to discuss the surveillance, monitoring, and control of this pest in Europe, but the Covid-19 pandemic and the geopolitical situation in the region made a physical meeting impossible. The Emerald ash borer continues to spread on the continent and instead of a physical meeting EPPO launched this Network and a webpage (www.eppo.int/RESOURCES/special_projects/agrilus_planipennis_network).

Objective

The objective of the Network is to exchange data on monitoring and to get a better understanding of the current distribution and spread of the Emerald ash borer in the EPPO region. Information on effective trapping and management options could also be shared. The Network will focus on the EPPO region, however members from other regions are also welcome as significant knowledge on biology and experience on monitoring and control of this pest is also gathered in other parts of the world.

The way of work

Initially, the Network will function as bimonthly newsletters distributed through an email list maintained by the EPPO Secretariat, who will accumulate new information (monitoring, distribution, trapping, and management data), including that sent by the members of the network. The EPPO Secretariat will then regularly (normally once every two months) send the accumulated information to the members of the Network by email. All newsletters will be stored on the Network's web page (see link on page 1).

Meeting

Once we have a sufficient coverage, a video meeting will be organized to discuss the current situation and the format of further work.

Sharing of information

The bimonthly newsletters will mostly comprise information we receive from our members; therefore, **please send news related to this pest to us**.

2. The Network: statistics

By mid-July 2023, we have more than **190 members (subscribers) from 39 countries**; which is a good beginning indicating strong interest to the subject. Please encourage relevant colleagues to join the Network via the link https://forms.office.com/e/7GxvJkS0YT (registered email address will not be disclosed).

3. New publications on the Emerald ash borer

During May and June 2023 we received information on **9 new papers** on *A. planipennis* (8 journal papers and 1 conference abstract).

Most of them report **further spread** of the pest in **Central Russia** (Selikhovkin et al., 2022, 2023; Volodchenko, Sergeeva, 2023) and **Southern Russia** (Godin et al., 2022; Martynov et al., 2022; Romanchuk et al., 2022; Schurov and Zamotajlov, 2022) [parts of Russia are indicated in accordance with the EPPO Global Database: https://gd.eppo.int].

A new paper by Meshkova et al. (2023) reveals the traits of the Emerald ash borer and the climatic variables that affect its survival. It also predicts the pest's expansion range in **Ukraine and westward**.

Finally, two papers report results obtained in **North America**:

- Cipollini & Morton (2023) examined the health status of mature blue ash, *Fraxinus quadrangulata*, in relation to that of mature white ash, *F. americana*, and evaluated the potential importance of oviposition preferences and larval resistance in the persistence of blue ash (Ohio, USA);

- Morris et al. (2023) focus on the factors affecting distribution of Emerald ash borer parasitoids in an urban environment (New York, USA).

A reference list including a short summary of each of these publications are given at the end of this Newsletter (pages 4–6) and also on the Network's homepage on the webpage of EPPO (www.eppo.int/RESOURCES/special_projects/agrilus_planipennis_network). Most of the papers are available as full text via the provided links; others may be made available on request to the authors.

4. To create a map of distribution of *A. planipennis:* volunteers?

The map of distribution of *A. planipennis* is available in the EPPO Global Database (https://gd.eppo.int/taxon/AGRLPL/distribution). However, this map cannot show details below the county level (with exception of large sub-country regions in China, Russia, the USA, and Australia). It would be very helpful if the Network could create and maintain a map which would accumulate all new published and verified records of *A. planipennis* in Europe below the country level. **We need volunteer(s) who can lead this work. Please let us know if you can and are willing to do so.**

5. The International Plant Sentinel Network

The International Plant Sentinel Network (IPSN) is a global network of botanic gardens, arboreta, plant health institutes and National Plant Protection Organisations (NPPOs) working together to provide an early warning system for new and emerging pest and pathogen threats worldwide. The IPSN is led by Botanic Gardens Conservation International. With over 80 members in 22 countries across the globe, IPSN works with partners to carry out a range of projects to monitor for plant pest/diseases, build capacity and share information to improve knowledge of plant health.

As part of these efforts, since 2020, the IPSN has been funded by Defra (GB) **to set up a network of botanic gardens** in Eastern Europe to **monitor the spread of *A. planipennis* using ash trees (*Fraxinus* spp.) in collections** across the region. The project had its first workshop in Kaunas (Lithuania) in May, 2023. Please see information on the project on page 7.

The EPPO Network will explore possibilities of collaboration with the IPSN Network. Meanwhile we encourage our members to visit the webpage of the IPSN project:

https://www.bgci.org/our-work/projects-and-case-studies/emerald-ash-borer-eab-in-eastern-europe/

6. A closing remark

That is about all for the first Newsletter. We look forward to receiving your news and publications, links to recently published papers and conference abstracts of your colleagues, any other relevant pieces of information and announcements on Emerald ash borer so we can distribute them via these Newsletters list. The email for correspondence is dm@eppo.int (Dmitrii Musolin).

7. References received (July 2023)

Cipollini D, Morton E (2023) The persistence of blue ash in the aftermath of emerald ash borer may be due to adult oviposition preferences and reduced larval performance. *Agricultural and Forest Entomology*. Early view. https://doi.org/10.1111/afe.12582
In this paper, the authors examined the health status of mature blue ash, *Fraxinus quadrangulata*, in relation to that of mature white ash, *F. americana*, and evaluated the potential importance of oviposition preferences and larval resistance in the persistence of blue ash (Ohio, USA).

Godin AE, Miroshnikov AN, Prisniy YA (2022) Additions to data on invasive insect species of Belgorod Region. *Field Biologist Journal*. 4(4), 344–349 (In Russian, with English abstract). https://doi.org/10.52575/2712-9047-2022-4-4-344-349

This paper describes that a population of the Emerald ash borer was first revealed in the Belgorod Region of Russia in 2019 [Orlova-Bienkowskaja et al., 2019] and now reported in different parts of the region.

Martynov VV, Nikulina TV, Shokhin IV, Terskov EN (2022) Contributions to fauna of invasive insects of Astrakhan Region and Republic of Kalmykia. *Field Biologist Journal* 4(4), 329–343 (in Russian, with English abstract). https://doi.org/10.52575/2712-9047-2022-4-4-329-343
This paper describes that a population of the Emerald ash borer is revealed in the Astrakhan Region on the left bank of the Volga River, settlement Dzhelga, Akhtubinskii District, Russia, 48.2°N, 46.2°E, in 2020–2022, on *Fraxinus pennsylvanica*.

Morris TD, Drake JE, Gould JR, Fierke MK (2023) Factors affecting distribution of emerald ash borer parasitoids in an urban environment. *Landscape and Urban Planning* 237, 104814. https://doi.org/10.1016/j.landurbplan.2023.104814 (https://www.sciencedirect.com/science/article/pii/S0169204623001330)
This paper describes the factors affecting distribution of emerald ash borer parasitoids in an urban environment (New York, USA).

Romanchuk RV, Meshcheryakova IS, Poushkova SV, Kasatkin DG, Khachikov EA, Kupryushkin DP (2022) The distribution of the emerald ash borer *Agrilus planipennis* (Coleoptera: Buprestidae) in the south of the Rostov region. *Ekosistemy* 32, 33–41 (In Russian, with English abstract). https://www.elibrary.ru/item.asp?id=50399582; full text: https://www.elibrary.ru/download/elibrary_50399582_87567269.pdf
This paper describes that a population of the Emerald ash borer was first revealed in the Rostov Region of Russia in 2021 [Orlova-Bienkowskaja, Bienkowski, 2022a, 2022b] and now reported in different parts of the region, on *Fraxinus pennsylvanica*.

Selikhovkin AV, Musolin DL, Popovichev BG, Merkuryev SA, Volkovitsh MG, Vasaitis R (2022) Invasive populations of the Emerald ash borer *Agrilus planipennis* Fairmaire, 1888 (Coleoptera: Buprestidae) in Saint Petersburg, Russia: A Hitchhiker? *Insects* 13, 191. https://doi.org/10.3390/insects13020191
This paper describes that a population of the Emerald ash borer was detected in Saint Petersburg, Russia, 59.9°N, 30.4°E, in 2020, on *Fraxinus pennsylvanica* and *Fraxinus excelsior*, 2 enclaves.

Selikhovkin AV, Volkovitsh MG, Kazi IM, Popovichev BG, Osechkina TA (2023) Population parameters and new records of the Emerald ash borer *Agrilus planipennis* Fairm. (Coleoptera, Buprestidae) in Saint Petersburg in 2022. *Entomologicheskoe Obozrenie* 102(1), 35–43 (in Russian; translated into English for *Entomological Review*). https://www.elibrary.ru/item.asp?id=50438023
This paper describes that the population of the Emerald ash borer was still found in Saint Petersburg, Russia, 59.9°N, 30.4°E, in 2022, on *Fraxinus pennsylvanica* and *Fraxinus excelsior*, the same two enclaves as in the paper by Selikhovkin et al. (2022).

Shchurov VI, Zamotajlov AS (2022) First records of the Emerald ash borer *Agrilus planipennis* Fairmaire, 1888 (Coleoptera: Buprestidae) in Krasnodar Territory. Proceedings of the

24th International Scientific Conference devoted to the 30th anniversary of the Republic of Ingushetia 'The Biological Diversity of the Caucasus and South of Russia' (ed. by Tochiev TY et al.) (Magas, Russia, 17–20 November, 2022). Magas: Alef Publ. P. 558–565 (in Russian). https://www.elibrary.ru/item.asp?id=50269203
This paper provides the first records of the Emerald ash borer in the Krasnodar Territory, Russia, 65 localities from 7 municipalities, appr. 46°N, 39°E, in 2022, on *Fraxinus pennsylvanica* (not clear about *Fraxinus excelsior* and *Fraxinus angustifolia*).

Volodchenko AN, Sergeeva ES (2023) The first record of alien species *Agrilus planipennis* Fairmaire, 1888 (Coleoptera: Buprestidae) in Saratov Region. *Field Biologist Journal* 5(1), 42-48 (in Russian, with English abstract). https://doi.org/10.52575/2712-9047-2023-5-1-42-48
This paper describes that a population of the Emerald ash borer is revealed in the Saratov Region, Balashov, Russia, appr. 51.5°N, 43.2°E, in 2023, on *Fraxinus pennsylvanica*.

IPSN – Emerald Ash Borer monitoring in Eastern Europe

The International Plant Sentinel Network (IPSN) is a global network of botanic gardens, arboreta, plant health institutes and National Plant Protection Organisations (NPPOs) working together to provide an early warning system for new and emerging pest and pathogen threats worldwide. The IPSN is led by Botanic Gardens Conservation International.

With over 80 members in 22 countries across the globe, we work with our partners to carry out a range of projects to monitor for plant pest/diseases, build capacity and share information to improve knowledge of plant health.

As part of these efforts, since 2020, the IPSN has been funded by Defra (UK government) to set up a network of botanic gardens in Eastern Europe to monitor the spread of Emerald Ash Borer (*Agrilus planipennis*) in ash trees (*Fraxinus spp.)* in collections across the region.

Considering the serious economic damage that the Emerald Ash Borer (EAB) has had in USA and Canada (with an estimated 100 million tree deaths being attributed to this insect pest) there is real concern for the survival of several ash species and their associated biodiversity in the region. Particularly considering there have already been reports of the beetle being present in Russia and more recently in Ukraine leading to serious concerns that it could spread rapidly to the rest of Europe.

During the past couple of years, the IPSN has engaged with gardens in 13 countries in the region (i.e. Estonia, Latvia, Lithuania, Belarus, Poland, Czech Republic, Slovenia, Slovakia, Hungary, Romania, Bulgaria and Ukraine) to carry out visual surveys and set up traps in the gardens to help monitor the spread of EAB in the region. Over 20 species of *Fraxinus* and more than 400 tree specimens have been regularly surveyed for symptoms of presence of this pest. With the next phase of the project under way, we are training gardens staff to monitor and set traps in their collections, as well as looking to engage with further entomological experts, NPPOs and plant health institutes to support this effort to monitor the spread of EAB into Europe.

If you are interested in collaborating in this effort, please get in touch with:
Katherine.Odonnell@bgci.org or Lara.salido@bgci.org Follow us on twitter @IPSN_BGCI
Website:https://www.bgci.org/our-work/networks/ipsn/

Information provided by Ms Lara Salido, IPSN Project Officer on 14.04.2023.