

Researchers from SibFU and the Institute of Forest, Russian Academy of Sciences, Siberian Branch, develop a genetic library for forest insects

Natalia Kirichenko, Associate Professor from SibFU and Senior Research Associate at Sukachev Institute of Forest, Russian Academy of Sciences, Siberian Branch, reported a rapid invasion of the lime leaf miner in Eurasia and developing genetic (DNA barcoding) libraries for quick and reliable identification of forest insects pests at the international [LE STUDIUM conference "Insect Invasions in a Changing World"](#) which was held in Orleans, France, 17- 19 December 2014.



According to **Natalia Kirichenko**, insect invasions have become a global challenge: «*Human activities, growing international trade, tourism and climate change play significant roles in insect invasions, accelerating and facilitating the introduction, establishment and acclimatization of pests*».

Natalia Kirichenko says that early detection, accurate identification of insect invaders, identification of distribution pathways, and studying the potential link between on-going climate change and bioinvasions are essential for understanding the underlying mechanisms of invasion processes and require the application of interdisciplinary approaches.

Rapid and precise identification of pest insects is becoming crucial for effective quarantine measures and plant protection. Genetic libraries using DNA barcodes may significantly facilitate organism identification, **Natalia Kirichenko** says: «*DNA barcoding is widely recognized as an efficient tool for fast and accurate identification of most organisms*».

DNA barcoding reference libraries may accelerate detection of invasive species allowing researchers to identify organisms by their immature stages, such as larva and pupa (when traditional morphological approach is not applicable), significantly facilitate regional insect inventories in poorly studied regions (including Siberia) and help to discover new species».

The DNA barcoding library is expected to become a part of the international genetic databases to contribute to detection of invasive insect species.

About

Conference "Insect Invasions in a Changing World" was held in Orleans, France, 17 - 19 December 2014. The main conference organizers were:

- [LE STUDIUM® Loire Valley Institute for Advanced Studies](#), Orleans, France;

- [The French National Institute for Agricultural Research](#), Orleans, France;
- Siberian Federal University, Krasnoyarsk, Russia;
- [Sukachev Institute of Forest, Russian Academy of Sciences, Siberian Branch](#), Krasnoyarsk, Russia.

The conference was organized in the frames of LE STUDIUM® post doctoral research project "Developing contemporary molecular and genetic methods to identify invasive forest insects" on which Dr Natalia Kirichenko works together with Dr Alain Roques, Dr Sylvie Augustin and Dr Carlos Lopez-Vaamonde at INRA.

The conference was attended by 45 researchers from Austria, Hungary, Italy, Canada, the Netherlands, Portugal, Russia, Serbia, France, Switzerland, and Sweden.

The keynoter, Dr Alain Roques, a well-known European researcher and a Research Director at INRA, Orleans, reviewed contemporary problems related to insect invasions.

The invited speaker, Dr Yuri Baranchikov, Head at the Laboratory of Forest Zoology, Sukachev Institute of Forest, Russian Academy of Sciences, Siberian Branch, reported increasing invasions of North Asian forest insects westwards.

LE STUDIUM® organized the public lecture "Invasive alien insects: why are we all concerned?". The presenter was Dr Marc Kenis, Head of Risk Analysis and Invasion Ecology Section at CABI-Europe Switzerland. The lecture of a famous researcher attracted an audience of more than a hundred attendees.

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