



## International Union of Forest Research Organizations

Union Internationale  
des Instituts de  
Recherches Forestières

Unión Internacional  
de Organizaciones de  
Investigación Forestal

Internationaler  
Verband Forstlicher  
Forschungsanstalten

### IUFRO Meeting Report Form

Organizers of IUFRO meetings and IUFRO focal persons at IUFRO co-sponsored meetings, respectively, are kindly requested to **fill in and return this form within two weeks after the meeting** by email (wolfrum@iufro.org), fax (+43-1-877 01 51-50) or mail (IUFRO Headquarters, c/o BFW, Hauptstrasse 7, 1140 Vienna, Austria). This information will be posted at the relevant IUFRO web pages and may be used for IUFRO News and the IUFRO Annual Report.

(Note: Save this file under a new name and write directly into the form.)

#### 1) IUFRO focal person/meeting organizer:

Name: Prof. Carmen Büttner, Dr. Dr. Risto Jalkanen

Function in IUFRO: Prof. C. Büttner, Chair of IUFRO unit 7.02.04 viruses and phytoplasma  
Dr. Dr. Risto Jalkanen, Vice chair of IUFRO unit 7.0204 viruses and phytoplasma

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#### 2) Meeting report (max. 100 words per paragraph)

##### Key issues discussed/latest findings in the field:

- a) Overview on viruses in forest and urban trees  
State of knowledge on viruses in forest and urban trees
- b) Important viral diseases of broad-leaved trees  
The new EMARa Viruses, impact on woody hosts and case study of viruses in an oak seed-orchard. Current status of the birch leaf roll disease in Finland and molecular studies on the associated *Cherry leaf roll virus* (CLRV)
- c) Phytoplasmoses of woody hosts  
Effects and host-pathogen interactions of phytoplasmas affecting grapevine and *Alnus* sp.
- d) New molecular identification tools  
NGS for detection and characterization of known and unknown plant viruses and first experience with NGS using plant material of forest and urban trees
- e) Poster  
Translation initiation studies of the polyproteins encoded by RNA1 and RNA2 of *Cherry leaf roll virus*. Detection of plant viruses in declining urban birch trees in Berlin. Survey of CLRV and EMARaV distribution in Scandinavia and Finland. Transmission studies of *European mountain ash ringspot associated virus* (EMARaV) to putative new hosts. Localization studies of EMARaV proteins *in planta* by *Agrobacterium*-mediated transformation. COST Action FA1407: Empowering NGS technologies for the study and diagnostic of plant viruses. Taxonomy and genetic variability of Alder Yellow's Phytoplasma in Black Alder in Spreewald Habitat.

##### Conclusions (if possible, summarize key conclusions across presentations):

Investigations on virus and phytoplasma diseases in the forest ecosystem are very limited as compared to those of agricultural environment. The ability to identify pathogens in forest and urban trees may be compromised when novel or unsuspected viruses and phytoplasmas are causing infection as traditional virus detection methods only target specific known pathogens. Novel molecular tools such as Next generation and third generation sequencing were considered as suitable methods

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for determination of individual known and unknown viruses and phytoplasmas in diseased trees. Successful application of viral and phytoplasma metagenomics is a prerequisite to associate identified pathogens with disease symptoms, to develop or improve detection methods leading to a better understanding of host-pathogen interactions which may finally result in improvement of management strategies.

**Outlook to future activities** (*proceedings, future meetings, other*):

Titles of oral contributions of the workshop are listed in the programme book of the 18<sup>th</sup> International Plant Protection Congress, p. 77. Poster abstracts are printed in the book of abstracts of the 18<sup>th</sup> International Plant Protection Congress. More detailed informations can be provided by the chairs of the IUFRO unit 7.02.04 upon request.

**Background information** (*meeting context*):

The international workshop "Virus and phytoplasma diseases of forest and urban trees" was organized as a satellite meeting of the XVIII. International Plant Protection Congress (IPPC).

**3) Other information**

**Meeting data:**

*Full title of the meeting:* Virus and phytoplasma diseases of forest and urban trees

*Date and venue:* 25. August 2015, Humboldt-Universität zu Berlin, Faculty of Life Sciences, Division Phytomedicine, Lentzeallee 55/57, 14195 Berlin, Germany

*Meeting website:* <http://dpg.phytomedizin.org/index.php?id=372>

*Number of participants:* 35

*Countries represented:* Belgium, Croatia, Finland, Germany, Italy, Hungary, Mexico, Poland, Russia, Saudi Arabia, Spain, Sweden

**Organization of the meeting:**

*All IUFRO Units involved:* 7.02.04

*Host organization(s) and sponsor(s):* HU Berlin, DPG, IUFRO and COST

**Communication activities** (dissemination of information about the meeting; promotion of IUFRO):

Titles of oral contributions of the workshop are listed in the programme book of the 18<sup>th</sup> International Plant Protection Congress, p. 77. Poster abstracts are printed in the book of abstracts of the 18<sup>th</sup> International Plant Protection Congress. More detailed informations can be provided by the chairs of the IUFRO unit 7.02.04 upon request.

**Related publications /websites:**

<http://dpg.phytomedizin.org/index.php?id=372>

Büttner, C., von Barga, S., Bandte, M., Mühlbach, H.-P. (2013) Forest diseases caused by viruses. Chap. 3 In: Infectious forest diseases. Gonthier P., Nicolotti G. (eds), CABI, pp. 50-75..

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#### ***IUFRO Unit 7.02.04 – Phytoplasma and virus diseases of forest trees***

The international workshop “Virus and phytoplasma diseases of forest and urban trees” was organized as a satellite meeting of the XVIII. International Plant Protection Congress (IPPC).

The 3 h event in the evening of the 25th of August 2015 at the Campus Dahlem of the Humboldt-Universität zu Berlin (Lentzeallee 55/57) was hosted by the chairs of the IUFRO unit 7.02.04 Prof. Dr. Carmen Büttner (Humboldt-Universität zu Berlin) and Dr. Risto Jalkanen (Natural Resources Institute Finland LUKE) and was attended by participants from all over Europe including Belgium, Croatia, Finland, Germany, Italy, Hungary, Poland, Russia, Spain, Sweden, and other countries such as Mexico and Saudi Arabia.

During the two scientific sections eight impulse presentations focused on recent developments regarding viruses and phytoplasmas affecting broad-leaved trees and diagnostic tools for identification of unknown pathogens of forest and urban trees. Oral presentations which were given by experts from the University of Hamburg, Germany; Natural Resources Institute of Finland, Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain; and the division Phytomedicine of Humboldt-Universität zu Berlin demonstrated the extend and impact of viral and phytoplasma diseases affecting deciduous trees. More precisely, contributions comprised the state of the art and an overview on viruses in forest and urban trees, as well as the relevance of members of the newly described genus *Emaravirus* causing considerable damage of woody hosts and crops. The ongoing progress of the “leaf roll disease” affecting birch species especially in Fennoscandia and the identification of associated viral pathogens was brought forward and discussed in combination with the presented information gained by molecular studies of associated viruses. Furthermore, the application of new discovery tools to identify previously unknown pathogens were introduced and evaluated in regard to determine causal agents of diseases of deciduous trees and shrubs and study of host-pathogen interactions. Within the breaks it was possible to gain additional information through the display of seven scientific posters contributing to a deeper view of the presented topics and thus stimulating the discussion of associated issues.

It was a successful workshop enabling considerable scientific exchanges between participants and contributors concluding a very pleasant and informative conference day.