Forstschutz Aktuell Nr. 60/61 - Abstracts

Editorial: 25 Years *Forstschutz Aktuell*

Gottfried Steyrer, Gernot Hoch and Christian Lackner

The journal *Forstschutz Aktuell* celebrates its 25th anniversary. The BFW's Institute of Forest Protection as well as an increasing number of authors from other institutions use this medium to inform a broad national and international audience about research results as well as current developments in the field of forest protection. Proximity to forestry practice and a wide spectrum of topics are central aims of the journal. English abstracts and figure legends help to increase the accessibility for an increasingly international audience. Since its foundation in 1989, approximately 500 articles have been published in 60 volumes.

Monitoring flight of *Monochamus* spp., potential Vectors of the Pine Wood Nematode in Austria using Pheromone-kairomone baited Traps

Gernot Hoch, Diana Mittermayr and Hannes Krehan

Flight of *Monochamus* spp. was monitored on nine locations at different elevation and in different forest types in Austria in 2013. Four species of the genus, *M. galloprovincialis*, *M. sutor*, *M. sartor* and *M. saltuarius* were caught in multifunnel traps baited with monochamol, ipsenol, methyl-butenol, and α-pinene. The flight period extended from beginning of June to end of October. Weekly trap catches were positively correlated with mean air temperature. The study demonstrates the suitability of traps and lures for trapping all four species that are potential vectors of the pine wood nematode in Central Europe.

Outbreak of the Mountain Spruce Sawfly in Lowland Areas as a Result of Climate Change?

Christa Schfellner and Axel Schopf

Since 2011, significant defoliation has been reported from spruce plantations in the prealpine lowland areas of Salzburg, Upper Austria and Bavaria. The actual damage is caused by an outbreak of the mountain spruce sawfly, *Pachynematus montanus*. This species was generally regarded as a much less significant pest than the small spruce sawfly, *Pristiphora abietina*. In the past, sporadic outbreaks of *P. montanus* occurred at elevations above 800 m. Now, the former dominant small spruce sawfly has almost disappeared from the newly infested lowland sites. Within an EU funded project, we investigated this unprecedented shift in the population dynamics.

Occurrence of the Spruce Web-spinning Sawfly in Lower Austria (Waldviertel)

Gottfried Steyrer, Bernhard Perny, Gernot Hoch and Christa Schafellner

In 2013, an infestation of spruce web-spinning sawfly (*Cephalcia abietis* L.) was noticed in a stand of the forest enterprise Stift Zwettl (Waldviertel, Lower Austria) on an area of about 10 ha. As known from literature and internal data, an outbreak of this species occurred in the same forest district about 50 years ago. Soil samples taken in spring 2014 ascertained a mean density of 640 prepupae per m², all of which were in the eonymph-stage. Therefore, no feeding damage was expected for 2014. Samples in autumn 2014 showed 10 percent were pronymphs. Therefore, the development has to be monitored further in 2015.

Bark Beetle Situation in Bavaria 2014 – No Easing of Tension

Cornelia Triebenbacher

The analysis of the bark beetle monitoring dates and the biannually forest protection report of all Bavarian forest districts (period 01.03. to 01.09.) shows, that the expectable massive damage by *Ips typographus* and *Pityogenes chalcographus* did not take because of the cold and wet weather condition in summer 2014. In September the infestation situation was certainly underestimated. The search for bark beetle damages was difficult because of the rain in this period. The full extent of damage will be seen in winter.

The Bow-legged Fir Aphid, *Cinara curvipes* – an Innocuous Immigrant from North America in Austrian Christmas Tree Plantations and Gardens?

Bernhard Perny

The North American aphid *Cinara curvipes* was first documented in the Austrian federal province of Tyrol in January 2014. Insects were found on a Christmas tree in a living room. The infestation could be traced back to the Christmas tree plantation in the Tyrol. *C. curvipes* has spread to several central European countries up to 2007. The species shows invasive behavior with regard to range expansion and host tree spectrum. Besides *Abies concolor*, *A. grandis* and other North American species, also *A. alba* and *A. nordmanniana* are attacked in Germany. Its flexible life cycle allows *C. curvipes* to build up outbreak

populations quickly. The full extension of its range is not known. Moreover, it cannot be ruled out that *C. curvipes* could become a problem in forest and Christmas tree plantations.

Bioacoustics for Detection of Wood - boring Insect Pests

Martin Brandstetter and Sebastian Hübner

Sound emissions of larvae of the red palm weevil (*Rhynchophorus ferrugineus*), the Asian longhorned beetle (*Anoplophora glabripennis*) and sawyers of the genus *Monochamus* were analyzed. The aim was to provide a better basic understanding of the bio-acoustics of these woodboring insects in order to develop a practical method for early detection. Characteristic sounds were inventoried, measured and basic bioacoustic parameters recorded. Clustering experiments showed that biting and stridulation sounds are promising candidates for species recognition.

Thousand Cankers Disease (*Geosmithia morbida*) – a Threat to our Walnut Trees

Thoams L. Cech

The article describes thousand cankers disease (*Geosmithia morbida*) of black walnut (*Juglans nigra*) and European walnut (*Juglans regia*) which was recorded for the first time in Europe in 2013 in Italy presenting a threat to walnuts due to its high risk of spreading by the bark beetle *Pityophthorus juglandis*. History, symptoms, disease development, probable origin, risk as well as measures are discussed.

Negative Effects of the Needle Bladder Rust (*Chrysomyxa rhododendri*) on Subalpine Spruce Forests. Resistant Trees could be a Solution.

Andrea Ganthaler, Stefan Mayr, Christian Annewanter and Christian Schwaninger

Norway spruce trees in the subalpine forests of the European Alps have been frequently attacked by the needle bladder rust (*Chrysomyxa rhododendri*) in the recent years. The obligate parasite undergoes a complex life cycle with a host shift between rhododendron (*Rhododendron* sp.) and Norway spruce (*Picea abies*) and causes a yellowing and defoliation of the current-year needles in summer. Infected trees show several anatomical, morphological and physiological modifications, including lower biomass production and reduced growth. The consequences are diminished timber yield, cripple growth and increasing difficulties in both natural regeneration and afforestation. A project was started to analyze the plant pathogen and establish resistant Norway spruce varieties.

Severe Damage due to Ice Break in Eastern Austria in December 2014

Gottfried Steyrer, Gernot Hoch and Christian Tomiczek

A severe ice storm in the beginning of December 2014 led to extensive damage due to breakage in many areas in Eastern Austria. The federal provinces of Upper Austria, Lower Austria, Burgenland, and Styria were affected. Heavy ice accumulation occurred in elevations between 500 and 1200 m; particularly on wind exposed sites all tree species and stand structures were damaged. Forest managers need to remove the damaged wood in due time to prevent infestation by bark beetles. Observing safety at work is of particular importance in this difficult and dangerous working situation.

Austrian Bio-Indicator Grid – then and now

Alfred Fürst

The Austrian regulation against forest damaging air pollutants provided the legal basis for the implementation of bio-indication using forest trees. In Austria, the impact of sulphur has been assessed since 1983 with the help of the Austrian Bioindicator Grid (BIN). The annual sampling allows a precise evaluation of the temporal and regional development of the impact of sulphur. Also the nutritional status and trends are observed, to identify growth limiting nutrients and to assess changes in tree nutrition. Increased tree productivity, possibly resulting from the global increase in atmospheric CO_2 and from high N deposition, has led to higher nutrient demand by trees. Especially a significant decrease of phosphorous in foliage can be observed in some regions. The BIN is increasingly used beyond classical forest health issues, such as for detection of heavy metals (mercury).

Complex Problems in Forest Health – Bilateral Cooperation as an Approach to Solution

Thomas L. Cech, Bernhard Perny and Gottfried Steyrer

In cooperation with the Mendel University, Brno, Czech Republic, the Austrian Research Centre for Forests (BFW) organized an excursion to sites with current and complex forest protection problems in Lower Austria. On eight sites differential diagnoses were performed together with researchers and students from the Mendel University. Insects and pathogens were identified and the complex of causal agents was discussed considering abiotic predispositions.

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