

Forstschutz Aktuell Nr. 34 - Abstracts

Pest and diseases on trees in cities

Ch. Tomiczek and B. Perny

Despite cold and wet weather conditions all kinds of defoliators, especially winter moths (*Operophtera* spp., *Erannis defoliaria*) played an important role on Oak, Hornbeam, Ash, Lime, Maple and Beech in the cities. Many trees were completely defoliated, but in early summer new leaves were built and practically no damage was observed.

For the first time an increase of the Pod gall midge (*Dasyneura gleditsiae*) could be observed on Honey locust in Vienna and Baden (near Vienna). The larvae of *Dasyneura gleditsiae* are sucking on developing leaf and due to the feeding the leaflets will turn into pod like galls. The damage of a heavily infested tree looks quite remarkable but has no economic impact.

Another insect, the Sycamore lace bug (*Corytucha ciliata*) found its way to the eastern part of Austria and occurs regionally in high densities. Severe infestations could only be observed on old Sycamore (plane trees) due to the overwintering of the bugs in cracks and under the bark. The damage, a characteristic yellowing of the leaves, is, not dangerous for the tree, even if it reaches a certain degree. For some years there has been a significant increase of bark beetles in urban areas, parks and private gardens, especially in coniferous trees. Remarkable was the occurrence of *Ips typographus* and *Pityogenes chalcographus* infesting spruce, but also bark beetles on *Thuja* sp. and other cupressaceous.

Jewel beetles (Buprestids) play an important role when they are infesting fresh planted trees. Especially Lime and Maples are endangered. These mostly 5 - 11 millimetres long, metallic shining beetles prefer sunlit or damaged parts of the bark. Beech splendour beetle (*Agilus viridis*) and Linden burncow (*Lampra rutilans*) were often recorded, but only sometimes a small buprestid on Lime tree. Other different species were found on Horse chestnut, Willow and White beam.

The populations of some leaf miners have been increasing since 2003. The Horse chestnut leaf miner (*Cameraria ohridella*) and Sycamore leaf miner (*Phyllonorycter platanii*) were the most frequent species. Against the mainstream the two leaf miners of Black locust, *Phyllonorycter robiniella* and *Parectopa robiniella* have rarely been found since the last two years, although they have well been distributed all over the eastern part of Austria. The first records of Lime leaf miner (*Phyllonorycter issikii*) in 2002 and 2003 could not be confirmed, despite intensive search.

Numerous leaf diseases, due to the wet weather conditions in 2005, were found on nearly all trees in urban areas.

Remarkably, Poplar leaf rust (*Melampsora* spp.) was observed on different poplars, *Guignardia*-leaf blotch (*Guignardia aesculi*) on Horse chestnut and Sycamore leaf disease (*Apiognomonina veneta*) on Sycamore. In many parts of the country, in urban areas as well as along motorways, many tree species were damaged by road salt. Mostly affected were Horse chestnut, Ash and different Maples.

Phytophthora-disease of European beech - an increasing problem in Austria

T. L. Cech and T. Jung

From 2004 to 2005, incidents of *Phytophthora cambivora* root and collar disease considerably increased in number in the Viennese woods. In many stands this is believed to be a major factor contributing to the beech decline commonly observed in that area. Successions of fungal colonization following *Phytophthora* attacks are described (*Nectria coccinea*; *Ganoderma applanatum*, *Hypoxylon deustum*, *Fomes fomentarius*) and probable consequences for the trees and stands are discussed.

New Regulations for the import of wood packaging material from non-EU countries

H. Krehan and B. Unterkofler

As a consequence of increasing world wide trade with products that are transported with solid wood packaging material, the number of introductions and interceptions of harmful foreign forest pests and diseases has escalated dramatically. Therefore, experts of the International Plant Protection Convention (IPPC) have issued an international phytosanitary standard for wood packaging material (ISPM No 15) that has now come into force in the plant protection regulations of many countries of world, effective 1 March 2005 in countries of the European Union.

The Austrian Plant Protection Organization is implementing these regulations through regular inspections of packaging wood at the place of destination of every recipient of such consignments.

Fungal diseases of leaves - a consequence of the cool and wet summer 2005

T. L. Cech

As a consequence of the high amount of precipitations during the summer of 2005 several microfungi, some of them leading to premature leaf shedding were observed in Austria.

Diseases are reported from the following tree species: Ash (*Fraxinus excelsior*) - Mildew (*Phyllactinia fraxini*) and other microfungi (*Spilocaea fraxini*, *Cladosporium* sp.); Linden (*Tilia* spp.) - *Cercospora cryptosora*, *Apiognomonina tiliae*; Birch (*Betula pendula*) - *Marssonina betulae*; Maples (*Acer* spp.) - *Rhytisma acerinum*, *Cristulariella depraedans* and *Uncinula* spp.; Grey alder (*Alnus incana*) - *Melampsorium hiratsukanum*; Walnut (*Juglans regia*) - *Marssonina juglandis*; Edible chestnut (*Castanea sativa*) - *Phloeospora castanicola*; European larch (*Larix decidua*) - *Meria laricis*, *Mycosphaerella laricina* and *Rhizosphaera* sp.

Sycamore - Bark necroses

T. L. Cech

Bark necroses on Sycamore are reported from Austria. Symptoms observed are detachment of outer bark, exposing black and violet-red layers underneath. The necroses are not related to wood deterioration. Climatic stress (frost) is discussed.

Gloeocystidium ipidophilum: An unusual basidiomycete associated with the eightspined European spruce bark beetle

T. Kirisits

In September 2005, whitish, cushion-like structures of a fungus were found in pupal chambers of the eightspined European spruce bark beetle (*Ips typographus*) in Donnersbachwald (Styria). Based on morphological characteristics the fungus was identified as the basidiomycete *Gloeocystidium ipidophilum* that has occasionally been reported as associate of *Ips typographus* in various parts of Europe (Poland, Germany, Norway and Austria). The fungus is illustrated and a brief review of the scant knowledge on the taxonomy, biology and ecology of *Gloeocystidium ipidophilum* is presented. The symbiotic relationship between *Gloeocystidium ipidophilum* and its vector is also reviewed. While the fungus clearly benefits by being transmitted to appropriate habitats by the spruce bark beetle, the significance of the fungus for *Ips typographus* is less clear. The common occurrence and intensive sporulation of *Gloeocystidium ipidophilum* in pupal chambers of *Ips typographus* might suggest that general adults feed on the fungus during maturation feeding. The ecological significance of *Gloeocystidium ipidophilum* for the spruce bark beetle deserves attention and further study.

Bark-Beetle Monitoring in Austria 2005

H. Krehan and G. Steyrer

185 bark-beetle pheromone traps were placed on different sites of coniferous stands in eight Austrian Federal Provinces. The capture number of these traps in combination with climate data should indicate the actual bark-beetle situation, such as flight activity and stage of development in Austria. All results were presented in real time on the web (<http://bfw.ac.at/400/2168.html>). One of the most interesting results of the monitoring was the early beginning of the flight activity and a high capture rate in the traps placed on sites of alpine regions (altitude of more than 1.000 metre).

PHRAME - an EU Research cooperation

U. Hoyer-Tomiczek and Ch. Tomiczek

Detection of pinewood nematode in Portugal has increased the threat to the EU from this extremely dangerous pest. The key objective for this project is to develop an improved Pest Risk Analysis methodology that can be used at both local and regional scales to assess the significance of a plant health threat and, by use of a core model, to assess the consequences of outbreaks. Seven research institutes of six nations cooperate within this project, which is funded by the European Union. Within this project the Austrian team is in charge of vector survey and vector biology and the development of early detection methods.

Vector survey in Austria was carried out by using pheromone-, wood-log traps and traps with burned wood material. No *Monochamus* beetles were caught by the different traps. The studies of the *Monochamus* biology showed, that the beetles make a maturation feeding during their whole life with a peak during the first two weeks. Under laboratory conditions *Monochamus galloprovincialis* pest beetles stayed alive for 53-94 days. Female beetles died 1 - 2 weeks earlier than male beetles.

Three different methods (bioacoustics, electrical conductivity and measurement of resin flow) were tested for early detection of effected trees. So far, best results were achieved by measurement of resin flow.

Scale snout beetle and Spruce bud scale - The cuckoo in the aphids home

B. Perny

In spring 2004, samples of Norway spruce which were heavily infested by the Spruce bud scale (*Physokermes hemichryphus*) were brought to the Department of Forest Protection. In many of the adult scales either the larvae or the adult beetle of a predator of these scales was found. It was identified as Common scale snout beetle (*Brachytarsus nebulosus*), also known as efficient predator of *Physokermes* spp. Because of appearance of the predator no measures were recommended. In 2005, no further outbreak was observed.

Moth caterpillars - Getting on the track of feeding larva by trapping

J. Connell and G. Steyrer

In 2003 and 2004, severe defoliation brought a lot of focus on Winter Moth (*Operophtera brumata*), Northern Winter Moth (*Operophtera fagata*), Mottled Umber Moth (*Erannis defoliaria*), Gypsy Moth (*Lymantria dispar*) and many other species in eastern Austria, but the general knowledge surrounding other associated feeding larvae proved to be, on occasions,

inadequate. An attempt in 2005 using a spanned 3 x 5 m tarpaulin between posts as a caterpillar trap, under four tree species - Ash (*Fraxinus excelsior*), Hornbeam (*Carpinus betulus*), Norway Maple (*Acer platanoides*) and Turkish Oak (*Quercus cerris*) -, was carried out to bring us in direct contact with tree specific species, with two main objectives: First, increase our practical identification knowledge, and second, get an overview of species found within the different trees and any overlap between species. This proved a successful exercise, and brought some very unexpected results.

Pest on shoots of Firs

B. Perny

In the last years the number of diagnosis samples showing damage on shoots and buds of Firs especially in Christmas tree plantations and tree nurseries, has increased. Besides of different biotic and abiotic factors a high amount of damage was caused by Microlepidoptera. At the end of September, samples from a tree nursery reached the Department of Forest Protection showing feeding on two to three-year-old shoots but also on new young shoots. Two Microlepidoptera, *Dioryctria sylvestrella* and *Dioryctria abietella* (Spruce cone worm) were found causing the damage.

A few years ago, a still unidentified pest occurred for the first time in a Christmas tree plantation. The symptoms looked like Grey mould infection at the beginning, then the needles turned to brown. The shoots died back from three to five centimetres and in the area to the healthy parts of the shoots showing exit holes. This damage occurred both in the Christmas tree plantation and in the nearby old fir stand. This was a severe infestation with several new shoots killed. However, no further damage could be observed the following year. Due to a pupa affected by parasites and found in one shoot, a Microlepidoptera is suspected to be responsible for the damage as well.



28.09.10 | Autor: Steyrer, G.