

## Forstschutz Aktuell Nr. 54 - Abstracts

### Assessment of the Basic Forest Protection Risk on Basis of the Forest Districts in Austria

Christian Tomiczek and Christof Schweiger

A method was developed to assess the basic forest protection risk on regional basis of forest districts in Austria. Resemblance to the natural forest community, forest road density, annual precipitation, percentage of protection forest, and number of staff in regional forest offices and in forest properties were the main factors for the assessment. Data stemmed from the Austrian forest inventory, Central Institute for Meteorology and Geodynamics, and state forest services. Each factor was rated on a five-level scale and weighted. The basic forest protection risk was classified "very high" in one forest district; in six forest districts, it was "very low". The majority of the forest districts the basic risk was considered to be "medium high" or "medium low". In a next step, assessment criteria for the forest protection risk will be developed for the most important damaging factors, such as storm, snow, bark beetles, ash dieback, oak pests, pine pests, and game.

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### Austrian Forest Inventory and the Nationwide Game Impact Monitoring: Comparison of Methods and Results

Heimo Schodterer

Status of regeneration and browsing by game are recorded differently in the Austrian Forest Inventory and the nation - wide Game Impact Monitoring according to different goals and employed criteria. Results cannot be compared directly but complement each other. Both surveys confirm an extraordinarily high level of game impact and damage by game in Austria. There is urgent need for management actions on two thirds to three quarters of forest regeneration area.

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### Bark Beetle and Tree Hurtful Fungi in an Altitudinal Gradient of the Bavarian Forest

Markus Blaschke and Heinz Bußler

The current distribution of relevant species for protection of forest was examined, using an altitudinal gradient in eight strict forest reserves in the Bavarian forest ranging from 325 to 1410 m above sea level. Alone 26 species of bark beetles were identified. In addition to the three most common types *Xyloterus lineatus*, *Taphrorychus bicolor* and *Hylastes cunicularius* also three species were represented which had been introduced from North America and Asia. The analysis of species distribution in the altitudinal gradient clearly shows that the sea level and inversely correlated annual average of the temperature explain most of the dispersion. *Xyleborus germanus* appears suitable as an indicator for change in temperature. Further attention should be paid especially to the future development of *Phellinus viticola*, one of the 18 harmful wood decay fungi.

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### Efficiency of Insecticide Treated Log Sections (Trap Tipis) on the European Spruce Bark Beetle, *Ips typographus* (Coleoptera, Curculionidae)

Petia Koleva, Nikolay Kolev, Axel Schopf and Rudolf Wegensteiner

Disagreement concerning the assessment of the success of trap tipis was the reason for the comparison of various catching devices. Significantly, more *Ips typographus* were caught with slit traps than with insecticide treated trap tipis. Both trap systems caught more beetles than common trap logs during the whole study (two periods: one month in spring and one month in summer). Slit traps brought evidence of similar trapping success in spring and summer, insecticide treated trap tipis and trap logs were approached by *I. typographus* more intensely in spring. *I. typographus* were killed after coming in contact with the Pyrethroid sprayed bark surface of trap tipi log sections in both periods of investigation. Despite the presence of three attractive catching devices, infestation of standing trees by bark beetles (next to the test area) could not be avoided. The bark beetle predator, *Thanasimus formicarius*, was found frequently on trap tipis and was also killed by the insecticide coating.

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### Current Damage by Ash Bark Beetle in Styria

Andreas Pfister

In the wake of ash dieback increasing attack on standing trees by ash bark beetles, primarily *Leperesinus varius*, has been recorded in Styria. Trees damaged by ash dieback offer excellent breeding material for the beetles. At higher population densities beetles successfully infest healthy or slightly damages trees. Early detection of the attack is difficult because entrance holes are often hidden in branch collars or excrescences of bark. Moreover, the amount of ejected bore dust is not very conspicuous and often only a part of the tree is attacked. It is imperative to carry out control measures in May and June because filial beetles leave the breeding tree in July for maturation feeding on adjacent healthy trees.

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### Ash Dieback Favours the Development of Opportunistic Pathogens like *Armillaria* spp. or Ash Bark Beetles

Heike Lenz, Ludwig Strasser and Ralf Petercord

Massive dieback of ash (*Fraxinus excelsior*) caused by the ascomycete *Hymenoscyphus pseudoalbidus* can be observed in countries of eastern, northern and central Europe. Since 2009, proof of the progression of this disease and its severity in Bavaria has been analysed. Since 2011, further damage by secondary opportunistic pathogens have been ascertained. Fungi belonging to the *Armillaria* spp. or ash bark beetles possibly take advantage of weakening of ash trees and are able to successfully infect them.

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### Ceratobasidium Needle Blight also in Austria

Heinz Butin

A description is given of the basidiomycete *Ceratobasidium* sp., found for the first time in the Federal Republic of Germany 2009. In the meantime observations established the presence of the fungus also in Austria. The pathogenic agent is able to attack new shoots as well as older needles of spruce and fir. Heavy attack may cause total loss of needles of individual twigs. Because the attack is limited to twigs close to the ground, the fungus is regarded more as a tolerable, maybe even useful, natural pruning organism rather than an economically relevant pathogenic agent.

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### New Species of *Neonectria* as a Cause of Cankers on True Firs (*Abies* spp.) in Scandinavia

Venche Talgø, Iben Margrete Thomsen, Ulrik Bräuner Nielsen, May Bente Brurberg, Arne Stensvand and Thomas Cech

In 2008, an epidemic caused by a supposedly new species of *Neonectria* was discovered on white fir (*Abies concolor*) in several counties in southern Norway. The pathogen was also found on other fir species and Norway spruce (*Picea abies*) in the vicinity of dying white firs. In 2011, the evidently same *Neonectria* sp. was found on several fir species in Denmark. Pathogenicity was proved in infection tests with the isolated fungus. Control measures are discussed.

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### Austrian Bio-Indicator Grid - Main Areas of Sulphur Impact in 2001-2010

Alfred Fürst

In Austria, the impact of sulphur has been assessed annually since 1983 with the help of the Austrian Bio-Indicator Grid. It allows a precise evaluation of the temporal and regional development of the impact of sulphur based on legally binding thresholds. From the mid-1980s to the beginning of the 1990s on more than 25 % of the plots thresholds were exceeded, whereas only on 5 to 10 % of the plots exceedances have been detected since 2000. In the decade 2001-2010, the main areas of immission loading were in Burgenland, South-eastern Styria, in the Danube and Inn valley, but also occasionally in the Waldviertel and in Carinthia in the surroundings of emitters. It was found out that sulphur impact clearly decreased with increasing altitude.

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14.06.12 | Autor: Steyrer, G.