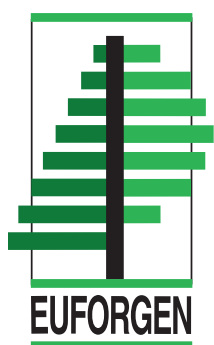


Stand-forming Broadleaves Network

Summary of the second meeting

Novi Sad, Serbia, 27-29 June 2007



European Forest Genetic Resources Programme (EUFORGEN)

Opening of the meeting

S. Orlovic of the Serbian Institute of Lowland Forestry and Environment opened the meeting as the local host and welcomed the participants from 23 countries. He then introduced Danilo Golubovic (State Secretary, Ministry of Agriculture, Forestry and Water management, Directorate of Forestry) and Dusan Jovic (Ministry of Agriculture, Forestry and Water management, Directorate of Forestry) who welcomed the participants to Serbia. They underlined the importance of international collaboration for environmental conservation and its relevance for Serbia, and then wished a fruitful meeting.

G. von Wühlisch, Chair of the Network, welcomed the participants and thanked the local organisers and authorities for their efforts in preparing the meeting.

J. Koskela presented the meeting agenda, which was amended and adopted. A. Papageorgiou and D. Olrik were nominated as rapporteurs for the first day of the meeting and J. Fennessy and A. Soto de Viana for the second day of the meeting.

EUFORGEN update

J. Koskela first informed the participants on the new strategy and focus areas of Bioversity International (With effect from 1 December 2006, IPGRI and INIBAP operate under the name "Bioversity International", Bioversity for short). He also presented the Institute's new structure and stressed that two networking programmes (ECPGR¹ and EUFORGEN) will continue to have an important role in Bioversity work in Europe.

He continued by giving an update on the membership of EUFORGEN.. Presently the Programme has a total of 34 member countries providing both technical and financial contributions. New member countries (for Phase III) are Georgia, Greece, Moldova and Romania. Potential new member countries include Bosnia and Herzegovina, Latvia, Russian Federation and Ukraine.

J. Koskela then gave an overview of MCPFE²-related activities, introducing the draft Warsaw Declaration and the two Resolutions. He summarised the outcomes of the Workshop organised by Bioversity International and IUFRO³ in Paris on 15-16 March 2006 to discuss the role of forest genetic diversity in improving the adaptability of forests to climate change. The workshop was hosted by the French Ministry of Agriculture and Fishery and attended by 78 participants from 25 countries. The workshop was part of the MCPFE Work Programme to implement Vienna Resolution 5 (Climate change and sustainable forest management in Europe).

The workshop recommended that management of forest genetic diversity should be better linked with national forest programmes. These programmes are already in place in most countries to facilitate continuous dialogue on forest-related issues between various stakeholders within and outside the forest sector. The workshop further recommended that forest management practices that maintain evolutionary

¹ The European Cooperative Programme for Plant Genetic Resources

² Ministerial Conference on the Protection of Forests in Europe

³ International Union of Forest Research Organizations

processes of forest trees and support natural regeneration of forests should be promoted, especially in areas where long-term natural regeneration is self-sustainable despite of climate change.

The discussions also stressed that the adaptation of forest trees to climate change can be accelerated through tree breeding and transfer of potentially suitable reproductive material. Subsequently, the workshop recommended that the MCPFE process should endorse the development of pan-European guidelines for the transfer of forest reproductive material in Europe on the basis of scientific knowledge. The workshop also concluded that the impacts of climate change need to be analyzed in a holistic manner. European forest research community was urged to carry out more interdisciplinary studies (e.g. tree physiology, forest genetics, pests and diseases, forest management and economics, and modelling) on the impacts of climate change on forests with the support of the policy makers. The full summary report of the workshop and all scientific contributions presented are available at the EUFORGEN Web site (www.euforgen.org).

J. Koskela also presented an overview of the data collected on the indicator 4.6 of the pan-European criteria and indicators (C&I) for sustainable forest management to be included in a MCPFE report on SFM in Europe. EUFORGEN was asked to provide data on the area managed for conservation and utilisation of forest tree genetic resources (*in situ* and *ex situ* gene conservation) and area managed for seed production. The report will be presented during the next MCPFE in Warsaw, 5-7 November 2007.

He then gave an overview of the EUFORGEN Networks activities. The Forest Management Network carried out a survey on relevant policies and practices that influence the way the use of genetic resources is incorporated into forest management practices in different countries. As part of the survey, the Network also identified most relevant silvicultural practices in Europe and collected information on associated problems from the genetic point of view. The Network has also collected information on the policy tools countries have in place to promote the use of high quality forest reproductive material.

The Conifers and the Scattered Broadleaves Networks, as part of the ongoing work to develop the “common action plans” for target tree species, have developed the minimum requirements for gene conservation units. The Networks have established four working groups on conifer species and three groups on scattered broadleaves to develop the common action plans.

The EUFORGEN Steering Committee reviewed the mid-term progress of Phase III during its meeting in Novo mesto, Slovenia in May 2007. After reviewing the activities of the four Networks, the Steering Committee recognized that these are well in line with the new objectives of the Programme, but is encouraging the Networks to produce tangible results by mid-2009 to facilitate further progress evaluation before the next Steering Committee meeting. In Slovenia, the Steering Committee also discussed the importance of forest genetic resources in mitigating the effects of climate change and recommended that EUFORGEN follow up with the workshop recommendations and continue similar efforts on climate change. Following its earlier decision on FGR information management in 2004, the Steering Committee further agreed that EUFORGEN should prepare a comprehensive report on European forest genetic resources by 2009. This publication should provide more

detailed information on the state of FGR conservation in Europe and on progress made by the countries in this area.

After the Steering Committee meeting, an Inter-Network meeting (Chairs and Vice-Chairs of the Networks) was organised to analyse Network activities against the objectives and activities proposed by the Steering Committee and to review of the development of the common action plans, including the minimum requirements for gene conservation units. It was agreed that each species-oriented Network will develop a publication reporting the outputs of the CAP groups and that based on this publication the Forest Management Network will develop an overview for policy-makers. During the meeting it was also agreed that the species-oriented Networks will collect information on the transfer of forest reproductive material and its implications for gene conservation in the face of climate change and that the Forest Management Network will develop a publication on the management implications.

Sub-regional groups

Central and Eastern Europe (Czech Republic, Poland, Romania and Slovakia)

In Poland, the National Forest Service has developed a programme for testing 550 *plus* trees and 125 selected seed stands using common garden experiments. These are replicated in the four different ecological regions, aiming to select the most appropriate reproductive material for each of them. In Romania, a new seed regions system has been implemented with different zones for each species. In the Czech Republic, the investigation on populations of rare and neglected minor oak species was underlined. The project "Forest tree breeding and gene resources conservation of valuable and threatened populations, including an application of biotechnology methods in forestry" was reported and discussed among the participants. This project also covered beech provenance tests at 18 plots established in 1972 (1 plot), 1984 (4 plots), 1995 (12 plots) and 1998 (1 plot).

Mediterranean region (Bulgaria, Croatia, Greece, Italy, Portugal, Serbia, Spain and Turkey)

In Greece, there is a bilateral project (in collaboration with Germany) to study Greek beech populations using cpDNA and morphological traits. The first results have been published already. In Portugal, new provenance trials of *Quercus robur* and *Q. ilex* will be established in 2008. The main goal is to evaluate *Quercus robur* and *Q. ilex* variability at population level and to compare the performance of Portuguese populations with other populations from the natural distribution area. In Spain, the Spanish Strategy for Conservation and Sustainable Management of FGR has been approved. Presently the Action Plans to implement the Strategy are under development.

In Turkey, the selection of seed stands and establishment of gene conservation forests is underway. It was also reported that the European legislation regarding the trade of forest reproductive material has been adopted by Turkey. In Italy, a "Central Forest DNA Bank" was established. The aim is to collect DNA from all Italian tree species. The major goal of the collection relies on the harvesting of DNA samples from tree populations in order to catch a representative amount of the genetic resources

existing in every population. For this purpose, sampling will focus on 5 to 30 individuals per population and per species from common taxa and from taxa of particular interest (endemics, hybrids, ecotypes and endangered species). With the aim to facilitate taxonomic and evolutionary studies world-wide, the DNA bank might take an active role in various genomics, phylogeographic and biodiversity analysis projects related to forest tree species in the future. Requests for DNA samples will be considered from recognized botanical institutions or departments.

Northern Europe (Denmark, Finland, Lithuania, Norway and Sweden)

It was reported that a Nordic Genetic Resource Centre is likely to be established soon and that it will have one section for forest trees. In this framework it is also possible to foreseen the reorganisation of the Nordic Council for Forest Reproductive Material (NSFP). In Denmark, a research project on seed and pollen dispersal of oaks is being conducted and results will be shared shortly. In Finland, a research work on *Quercus robur* and its pollen dispersal was reported. This research will facilitate the identification of appropriate gene conservation units in the country. In Lithuania, a new project on restoration of oak forests was initiated. In addition, provenance trials using material of 150 best families of birch have been initiated. In Norway, the Norwegian Genetic Resource Centre was established in 2006. Cooperation with the environmental sector has also been initiated in order to ensure implementation of the EUFOGEN common action plans, once developed. In Sweden, the need to evaluate results of tree planting done after the storm in 2005 has been recognised. Most resources in practical forestry have been devoted to removal of damaged trees after the several storms experienced in the recent years and extra resources were also devoted to control insect outbreaks in conifers. For the next years, rural development funds have been earmarked for broadleaves research.

Western Europe (France, Germany, Ireland, Netherlands and United Kingdom)

In France, climate change is a major concern with a decline of pedunculate oak which has been reported from a number of locations throughout the country. Other work included the evaluation of provenance tests at four sites which contain 130 different provenances of oaks from all over Europe. A monitoring test has also been commenced on a sessile oak gene reserve in the southeastern France. Work on beech includes the addition of six new gene reserves to the existing 28. These six units are located in the Mediterranean and Pyrenean regions.

In Germany, the national programme on the conservation of forest genetic resources (established in the mid-1980's) is continuing its work. There are fewer reports on oak decline as compared to France. A new national inventory on *Populus nigra* has been commenced and it is similar to the model used for beech and cherry in Germany. In the United Kingdom, a meeting of all organisations involved in forest policy was held and the outcome of this meeting was the publication of an information note by the Forestry Commission entitled "*The Role of Forest Genetic Resources in Helping British Forests Respond to Climate Change*". The Forestry Commission have recently been asked to prepare a briefing note for the development of a national gene conservation policy on forest genetic resources. In Ireland, a working group was established by COFORD to develop a strategy for the conservation and management

of forest genetic resources. The strategy, entitled *“Sustaining and Developing Ireland’s Forest Genetic Resources – An outline strategy”*, was published in spring 2007.

The possible impact of climate change on forest trees and trees in urban areas is slowly getting some interest in the Netherlands. Through a number of presentations and articles, this issue was raised as a future problem. A general feeling is still that trees that survived so far should be able to cope with other changes as well.

Development of minimum requirements for gene conservation units of stand-forming broadleaves

T. Myking, on behalf of the task force (T. Myking, Th. Geburek, S. Bordacs, A. Ducouso, P. Zhelev and H. Kraigher), presented the outcomes of the group work discussion on the development of minimum requirements for gene conservation units (GCUs) of stand-forming broadleaves. The aim of this exercise is to define common criteria and requirements for the GCUs for stand-forming broadleaved species. He then explained the draft requirements which also facilitate selection of GCUs from the existing units across Europe for common action plans.

During his presentation, T. Myking discussed parameters such as minimum population size, number of the gene conservation units in Europe, the Management purpose of the gene conservation units, ownership, etc. It was suggested to revise the requirements taking into consideration the real situation in Europe and to allow flexibility to obtain information on most of the gene conservation efforts in the countries. It was noted that particular attention should be paid for monitoring of the units, and natural regeneration in particular. The issue of isolation should also be taken into consideration when further developing the minimum requirements.

EUFGIS project

J. Koskela introduced the new EUFGIS (‘Establishment of a European information system on forest genetic resources’) project which was launched on 1 April 2007 for a period of three and a half years. Following the request of the EUFORGEN Steering Committee, the Secretariat developed a proposal for this project in collaboration with partners in six countries (Austria, Denmark, France, Slovakia, Slovenia and the UK) and Bioversity submitted it to the first call for proposals under Council Regulation (EC) No 870/2004 on genetic resources in agriculture in September 2005. Countries are invited to participate in the project and share data on a voluntary basis.

EUFGIS aims at establishing a Web-based information system to serve as a documentation platform for national FGR inventories and to support practical implementation of gene conservation and sustainable forest management in Europe. The project will create a network of national focal points in the participating countries to provide updated data for the information system once it has been established. Before the information system can be developed, the major effort is to harmonize the minimum requirements for dynamic gene conservation units of forest trees and develop common information standards for these units at pan-European

level. The project will also provide training on FGR documentation to national focal persons.

The EUFORGEN Networks will have an opportunity to contribute to the project through the Information Working Group and they will be asked to nominate representatives for an expert group which will harmonize the minimum requirements developed by the Networks. More information on the project is available at the EUFORGEN Web site (www.euforgen.org).

Development of common action plans for stand-forming broadleaves

A. Ducousso gave a presentation on developing a strategy for gene conservation of European oaks species. He underlined the problems related to their unclear taxonomy (e.g. more or less all the species within a section interbreed and the hybrids are fertile), the number of species (including many rare with very limited distribution) and synonyms (e.g. *Quercus pubescens* ssp. *pubescens* has more than 440 synonyms) and main traits. In order to avoid the problems while developing the strategy, he presented a way to gather more information on oaks species in Europe.

It was agreed to divide the species into four groups: (i) white oaks, (ii) Xerophyllous oaks (*Quercus pubescens*; *Q. cerris*; *Q. frainetto*), (iii) evergreen oaks (*Quercus uber*; *Q. coccifera*) and (iv) minor and rare *Quercus* spp. It was also decided that the common action plans (see below, section “Revision of the work plan” for details) should be developed for these groups.

Forest management and stand-forming broadleaves

T. Myking presented preliminary results of the collection of examples on successful and non-successful transfer of FRM (Case study on the use of provenances with emphasis on the effects of transfer of forest reproductive material). It was agreed that a common template will be developed by a task force (T. Myking, J. Fennessy, J. Hubert, G. Kandermir, P. Mertens and G. von Wühlisch) to better analyse and present the examples. All Network members are encouraged to send additional example to the task force, who will then prepare a draft summary (for deadlines see the section “Revision of the work plan” below).

A. Ducousso presented a project aiming at the transfer of endangered beech populations in France in the face of climate change. The project is based on the current genetic knowledge, predicted climatic conditions and public awareness campaigns.

Following the update given by G. von Wühlisch on the progress on the development of a case study on genetic consequences of silvicultural practices, it was agreed to prepare the case study focusing on *Fagus sylvatica*. All Network Members are asked to provide relevant literature to G. von Wühlisch, L. Paule, H. Kraigher, B. Schirone and S. Peric by **31 December 2007**. The working group will draft a review paper presenting the current knowledge on the topic for **the next Network meeting**.

H. Kraigher, on behalf of the task force (H. Kraigher, J. Hubert, G. Parnuta, B. Schirone, S. de Vries, G. von Wühlisch and P. Zhelev) gave an update on the attempt

to provide an on-line access to the delineation of provenance regions in different countries. During the previous meeting, it was agreed that this would facilitate implementation of conservation of forest genetic resources in Europe. She presented the diverse approaches used in different countries based on the feedback the task force received. It was decided to circulate the request for information again to collect more country-specific maps of provenance regions. It was agreed that these maps will be made available in the EUFORGEN Web site without any standardisation attempt as there are other ongoing efforts dealing with the delineation of provenance regions in Europe (cf. TREEBREEDEX)..

F.C. Silva presented the work initiated in 1996 by the EUFORGEN *Quercus suber* Network on conservation of genetic resources of *Quercus suber*. He summarized the gene resources characterization efforts and the findings of the provenance trials established across the species' distribution range. He then presented the outcomes of a concerted action (FAIR 1 CT 95 0202) which are also summarized in the "Handbook of the concerted action on cork oak". Finally he introduced a new project aiming at establishing provenance trials of *Quercus robur* and *Q. ilex* in 2007/08 to evaluate variability at population level in these species (by comparing the performance of Portuguese populations with other populations from the natural distribution area). He then asked the Network members to collaborate in collecting acorns across the natural distribution area of the species.

Development of Technical Guidelines

M. Bozzano presented a template for translating the Technical Guidelines (TG) into other languages. The template consists of two new publications (with separate ISBN numbers) for each TGs to be translated. The first one will be a direct translation of the original six-page TG (keeping the original author and acknowledging the translators in the citation) and the second one will be a two-page publication with country specific information. The two-page sheet will have new author(s), i.e. translators, and it will be considered as a separate publication from the translated one. It was suggested to add local contact information to the back page and a local Web address in the bar on the front page. He then gave an overview of the process for the development of the distribution maps and stressed that the quality and the consistency of the results strongly depend on the responsiveness of the Network members. He concluded that draft maps of oaks species will be circulated for comments in the forthcoming months.

Revision of the work plan

Under **Objective 1** (gene conservation and sustainable forest management), the meeting agreed to make available country-specific maps of provenance regions. The task force (H. Kraigher, P. Zhelev, J. Hubert, B. Schirone, G. Parnuta) will circulate a questionnaire again by **31 July 2007** and all Network members should provide data in the agreed format by **31 October 2007**. As soon as the national maps have been provided, they will be posted on the Network Web site.

The Network agreed to collect more examples on the use of provenances with emphasis on the effects of transfer of forest reproductive material to finalize the case study. T. Myking, P. Mertens, J. Hubert, G. von Wühlisch, J. Fennessy and G. Kandermir will revise the template for examples and circulate it by **15 September**

2007 and the Network members should provide their inputs to the task force by 30 November 2007. The draft summary will be finalised by the task force by **31 March 2008**.

In addition, it was agreed to prepare the case study on genetic consequences of silvicultural practices on *Fagus sylvatica* (see above for deadlines).

Under **Objective 2** (gene conservation), it was decided to finalise the draft minimum requirements for gene conservation units of stand-forming broadleaves (by **15 September 2007**) based on the feedback received during the meeting (task force: **T. Myking**, S. Bordács, T. Geburek, A. Ducoussou, P. Zhelev and H. Kraigher). The Network will also start the development of the common action plans (CAPs) for stand-forming broadleaves and several participants agreed to contribute as follows:

Group 1: *Castanea sativa*; *Fagus* spp.; *Quercus robur* and *Q. petraea*: **G. Kandermir** (coordinating *Castanea sativa*) - **S. Peric** (coordinating *Quercus robur* - *petraea*) - **L. Paule** (coordinating *Fagus* spp.) and the following members will contribute to all CAPs of this group: V. Buriánek - J. Cedergren/J. Bergquist - K. Cesnavicius/ A. Pliūra - A. Ducoussou - J. Fennessy - J. Hubert - J. Kehlet Hansen/ D.C. Olrik - J. Kowalczyk - H. Kraigher - S. Orlovic - G. Parnuta - S. de Vries - G. von Wuelisch, T. Myking.

Group 2: *Betula* spp.; *Populus tremula*: **P. Vakkari** (coordinating *Betula* spp.) - **G. von Wühlisch** (coordinating *Populus tremula*) and the following members will contribute to all CAPs of this group: V. Buriánek - J. Cedergren/J. Bergquist - K. Cesnavicius/A. Pliūra - J. Fennessy - J. Hubert - J. Kowalczyk - S. Orlovic.

Group 3: Xerophyllous oaks (*Quercus pubescens*; *Q. cerris*; *Q. frainetto*): **M. Simeone** / **B. Schirone** - H. Kraigher - A. Soto de Viana - P. Zhelev - G. Parnuta

Group 4: Evergreen oaks (*Quercus uber*; *Q. coccifera*): **A. Soto de Viana** - F. Costa e Silva/M. H. Almeida - S. Peric - M. Simeone/ B. Schirone

Group 5: Minor + rare *Quercus* spp.: **A. Ducoussou** - G. Kandermir - A. Papageorgiou - P. Zhelev

The Secretariat will circulate (by **30 September 2007**) the minimum requirements for the gene conservation units. All Network members should then provide data on their candidate gene conservation units of the CAP species (using the table for descriptors) together with a half page descriptive text providing further information on the proposed units. Each Network member should propose 1-5 GCUs per country and per species to the members of the respective CAP groups by **31 December 2007**. The CAP groups will then select GCUs for the CAPs by **31 March 2008** and present draft CAPs **at the next Network meeting**.

It was also agreed to finalise the development of Technical Guidelines for *Betula pendula*/ *B. pubescens* (P. Vakkari), *Fagus orientalis* (G. Kandemir) by **10 July 2007**. Furthermore, it was decided to develop drafts for *Quercus ilex* (B. Schirone, M.C. Varela), *Quercus pubescens* (S. Bordács, P. Zhelev, B. Schirone), *Quercus frainetto* (S. Bordács, P. Zhelev, B. Schirone) and *Quercus cerris* (B. Schirone, P. Zhelev, G.

Kandemir) by **31 December 2007**. A draft for *Populus tremula* will be developed by **31 January 2008** (G. von Wühlisch) and information on rare oaks will be collected by **A. Ducousso**, M. Simeone, A. Soto de Viana, F. Costa e Silva, P. Zhelev Stoyanov, S. Peric, A. Papageorgiou and G. Kandemir and presented **during the next meeting**.

Under **Objective 3** (information dissemination), it was agreed to publish short news on relevant national efforts in the EUFORGEN Web site (1-2 pages of text with a photograph). All Network members can send the material to the Secretariat in any moment.

Seminar on the genetic resources of stand-forming broadleaves in Serbia

Forest genetic resources in Serbia - legal framework

L. Sovilj provided basic information on the Serbian forests and forestry. The most common tree species are beech (47%), oaks (25%) and conifers (11%). High forest comprise about 50% of the total forested area in the country; coppice 44% and the rest are shrubs.

Protected areas in Serbia cover 513 488 ha, of which 238 581 ha are forests. There are 288 registered seed stands over a total of 1832,6 ha (740.6 ha are for conifers and 1092.0 ha are for broadleaves, mostly *Q. robur* with 782.60 ha). Two seed orchards are registered; one for *Quercus robur* and another for *Picea omorika*. She also mentioned that several other seed orchards are being established.

Production of forest reproductive material and conservation of forest genetic resources are regulated by several legal acts in Serbia. Law on forest reproductive material is harmonised with Council Directive 1999/105/EC and adopted in 2004. Delineation of provenance regions, based on ecological conditions and genetic data, is underway for *Pinus nigra*, *Picea abies*, *Quercus petraea* and *Fagus sylvatica*. These efforts will be finalized by the end of 2007, and similar efforts will be started for *Abies alba*, *Fraxinus angustifolia*, *F. excelsior*, *Acer pseudoplatanus* and *A. platanoides*.

The Directorate of Forest at the Ministry of Agriculture, Forestry and Water Management is the official authority for legislation, inspection and approval of basic material based on proposals by authorized institutes. The Directorate also issues certificates of origin for FRM. Research and educational institutions include Institute for Lowland Forestry and the Environment in Novi Sad, Institute for Forestry in Belgrade and Faculty of Forestry in Belgrade.

Variability and breeding of beech (Fagus sylvatica) in Serbia

V. Isajev presented results of a study on beech genetic variability in Serbia, including intra- and inter-population variability of quantitative and qualitative traits, adaptation and productivity, and provenances variation at different sites. A total of 19 beech seed stands (137.57 ha) were selected for this study in Serbia, while six Serbian beech provenances were included in an international trial on beech genetic variability in Europe. As part of breeding efforts, vegetative reproduction of beech was performed by hetero-vegetative and auto-vegetative reproduction methods. The most efficient method was found to be the hetero-vegetative reproduction. Other

synthetic methods of tree improvement included controlled hybridization and application of ionizing radiation on beech fruits to increase the variability of the progeny artificially. The research efforts show that there are genetic differences between beech populations in Europe and Serbia. Further work on beech breeding should be carried out in Serbia, depending on the demands of forestry companies and the state forest service. The breeding work should focus on increasing productivity and stability of natural populations, more intensive application of hybridization of selected genotypes and the establishment of second generation clonal and seedling seed orchards.

Gene pool conservation and seed production of pedunculate oak (Quercus robur)

A. Pilipovic presented a review on conservation and seed production of pedunculate oak in Serbia. Oak forests are situated along the river Sava and Danube. The activities include both *in situ* and *ex situ* conservation of the oak gene pool. In the framework of *in situ* activities, eight seed stands were selected with a total area of 782 ha. *Ex situ* conservation started by selecting the phenotypically superior genotypes from the oak populations of Serbian forests. The main criteria for the selection were the straightness of stem and low susceptibility to mildew (*Microsphaera alphitoides*). The selected genotypes were used in the establishment of the clonal seed orchard covering seven hectares at the locality "Banov brod". After the first acorn harvest, progeny tests and generative seed orchards were established with half-sib offspring both from orchard genotypes and newly selected plus trees.

Meetings, projects and other initiatives

COST Action E52 on beech

G. von Wühlisch informed the meeting on the Evaluation of Beech Genetic Resources for Sustainable Forestry (COST Action E52), which started in March 2006 for a period of four years. The project serves as a platform to co-ordinate international data analysis and compilation of results based on 47 common garden experiments in 21 European countries holding a total of 202 provenances. The experiments were established in 1995 and 1998. The network of these experiments makes it possible to analyse the growth of a specific beech provenance at a number of contrasting sites and environmental conditions, simulating changes in the climate. The long-term perspective is to predict the existence of beech ecosystems in different parts of Europe under various climate change scenarios based on the growth responses of the different beech provenances at the different sites. During the first months of the project, an agreement on trial evaluation procedures was agreed by the participants. More information on the project can be found at http://www.bfafh.de/inst2/cost_e52/cost_e52.htm

TREEBREEDEx project

P. Vakkari presented an update to the first year of activities of the TREEBREEDEx project, which is funded by the European Commission as a coordination action under

the 6th framework programme for research. The project is coordinated by L. Pâques at INRA Orleans (France) and it brings together a total of 28 participating institutes in 19 countries. It builds on the earlier achievements by European forest tree breeders and their collections of trees and vast networks of experiments. The project started on 1 June 2006 and will last until 31 May 2010.

The project activities focus on 1) creating a virtual tree breeding centre, 2) assessing the geographical structure of the genetic variation of European tree species (delineation of adaptive environment and breeding zones at European level), 3) securing the long-term management of forest tree genetic resources (breeding populations), 4) improving breeding strategies, methodologies and tools, and 5) optimizing mass production and deployment of improved varieties in forests. The project has launched its Web site at <http://treebreedex.mediasfrance.org>.

EVOLTREE project

J. Koskela gave an update to the EVOLTREE project (EVOLution of TREEs as drivers of terrestrial biodiversity) which is funded by the European Commission under the 6th framework programme for research. EVOLTREE is a consortium of 25 partner institutes from 15 European countries and it is coordinated by A. Kremer (INRA, France). The project started in April 2006 for a period of four years.

The main aim of the project is to support integration of work on forest genomics in Europe by developing common research infrastructures and exchanging human resources. More specifically, EVOLTREE will 1) assemble and integrate the complementary disciplines in the field of ecological genetics and genomics (ecosystem genomics), 2) establish and implement a European research platform in this field in the form of “laboratory without walls”, 3) install common research infrastructures (e.g. a repository centre, field experimental sites, data management systems), and 4) spread high-level excellence to the scientific community, end-users and the general public.

The project also includes jointly executed research activities, which will identify genes of adaptive significance to climate change in three model tree genera (*Pinus*, *Populus* and *Quercus*), phytophagous insects (*Limantria*) and mycorrhizal fungi (*Laccaria* and *Glomus*). Furthermore, EVOLTREE will assess the level and distribution of nucleotide diversity in genes of adaptive significance in trees, insects and mycorrhizal fungi and the impact of trees on the composition of other species' communities. The project will also investigate the evolutionary processes in trees by reconstructing their past history and predicting their response to climate change.

EVOLTREE has selected seven intensive study sites where common research efforts will be carried out. These include Valais (Switzerland, alpine altitudinal gradient), Ventoux (France, Mediterranean altitudinal gradient), Solling (Germany, temperate forest), Puszcza Świątokrzyska (Poland, untouched forest) and Punkaharju (Finland, boreal forest), Loire (France, riparian forest) and Landes (France, intensively managed forest).

The project has also established a stakeholder group to facilitate science-policy dialogue. Further information on the project can be found at www.evoltree.eu.

Wrap-up session

The meeting decisions and the new work plan were revised and agreed by the participants (as indicated above).

The Stand-forming Broadleaves Network can organize one more meeting during Phase III after the present meeting. The timing of this meeting was discussed and the participants agreed that it should be organized in October/November 2008.

Portugal, Turkey, Greece and Spain offered to host the next meeting of the Network. G. von Wühlisch thanked the representatives of these countries for their offers on behalf of the Network. It was agreed that the Secretariat, Chair and Vice Chair will discuss the venue of the next meeting and, depending on geographic distribution of other EUFORGEN meetings and cost analyses, they will announce the venue and the dates of the next meeting after discussing with the national representatives.

With no other business, G. von Wühlisch closed the meeting.

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