Third EUFORGEN Mediterranean Oaks Network meeting, Ohrid, Macedonia, 6-8 November 2003

Summary of the meeting

Opening of the meeting

V. Andonovski, the local organiser and Vice-Chair of the Network opened the meeting and provided a short introduction to Ohrid and Macedonia. N. Nikolov then welcomed the participants from eleven countries on behalf of the Faculty of Forestry in Skopje.

L. Gil, Chair of the Network, welcomed the participants and thanked the local organizers for their efforts to host the meeting in Macedonia. He also introduced J. Koskela, new EUFORGEN Coordinator, and expected outcomes of the meeting. The agenda of the meeting was adopted and R. Brus and M. Ivankovic were nominated as rapporteurs for the meeting.

EUFORGEN update

J. Koskela provided a short update on the recent activities of EUFORGEN and the external reviews which were carried out on IPGRI. One review assessed the performance of IPGRI as the whole institute and another one focused solely on the IPGRI Regional Office for Europe. The two reviews were carried out as the regular five-year monitoring cycle of CGIAR and IPGRI activities, respectively. Results of both reviews were positive and several recommendations made during the Europe review were specifically addressed to the EUFORGEN Steering Committee. These recommendations will be presented to the Steering Committee for discussion during its next meeting in May 2004.

J. Koskela informed the meeting that the new Director General of IPGRI, Dr. Emile Frison, commenced his duties on 1 August 2003. He then presented the reports on recent meetings and outputs of EUFORGEN and listed various other meetings where the Secretariat promoted the EUFORGEN Programme. Relating to EUFORGEN activities, he informed the meeting that a collaborative capacity-building programme “Conservation and use of biological diversity for development” is being developed between IPGRI and the Government of Austria. It is planned that this initiative will include an international training programme on forest genetic resources. Its focus is on providing short-term training courses and scholarships especially for developing countries and European countries in transition. The training programme will initiate its first activities during 2004.

Country updates

The Network participants presented country updates on the genetic conservation and distribution of Mediterranean oaks in their countries (Albania, Bulgaria, Croatia, France, Italy, Macedonia, Portugal, Slovenia, Spain and Turkey). The discussion following the country updates highlighted several issues, such as the need to define

provenance regions at pan-European level rather than national level. It was also mentioned that deforestation has been more extensive in parts of the Balkan Peninsula as compared to some countries in western Mediterranean region. In relation to reforestation efforts, it was pointed out that uncontrolled movement of planting material is sometimes taking place without paying proper attention to select right provenances to given sites. This movement of planting material is likely to erode genetic diversity and the participants as well as EUFORGEN were urged to pay attention to this aspect.

All participants should provide an electronic version of their report, in the agreed format, to the Secretariat by **15 December 2003**. The country updates will be made available through the EUFORGEN web page and published as part of the printed meeting report.

Project and research updates

M.C. Varela explained shortly the history of the EU-FAIR project on cork oak (*Quercus suber*) since 1994. The aim of the project was to establish a network of field trials for the species. A total of 35 provenances were included into the provenance and progeny trials within the project using acorns which were collected from seven countries (Algeria, France, Italy, Portugal, Spain, Morocco and Tunisia). The trials are still young but they have already provided some useful results regarding survival rates, for example. The trials also serve as a valuable *ex situ* conservation effort for cork oak genetic resources. For future work, M.C. Varela pointed out there is a need to develop tools which could enable the assessment of cork quality at young age. She also stressed the need to pay attention to health problems and study phytosanitary aspects.

M.C. Varela introduced the Handbook of the EU concerted action on cork oak (FAIR I CT 95 0202) that was published as a result of the project and which summarizes the project outputs. She also distributed copies of this book to the participants.

Documentation

J. Koskela presented the new EUFORGEN web site, which is accessible directly through a new address (www.euforgen.org) while the old address under the IPGRI web site also remains operational. The web site is database-driven and includes a number of new features such as ‘What’s new’-section, species summary pages and an improved search engine. The EUFORGEN grey literature database is maintained as part of the new web site and it currently includes nearly 2000 references.

Public awareness

Posters

L. Gil presented a Mediterranean Oaks Network poster and a general EUFORGEN poster. The Network poster was originally developed for the DYGEN Conference and

revised for the World Forestry Congress. These posters as well as other Network posters are available from the EUFORGEN web site. L. Gil distributed copies of the posters in A4 size to the participants and urged them to use the posters to promote the Network and EUFORGEN activities.

Image database

N. Ozel provided an updated to the image database of the Mediterranean oaks. During the last meeting in Malta in May 2002, it was agreed to proceed with the development of the image database and preparation of a Photo-CD. However, N. Ozel reported that she has only received images from three countries (Cyprus, Spain and Turkey). All photos received so far were then displayed for the participants. It was discussed that photos should cover different aspects, from morphological characteristics to different uses of species.

The participants were asked to provide more photos and send them to N. Ozel either by email or on a CD-Rom before 31 December 2003. It was also agreed that photos can be used freely for public awareness purposes provided that the name of the photographer and EUFORGEN (e.g. N. Ozel/EUFORGEN Mediterranean Oaks Network) are acknowledged.

G. Eriksson presented a CD-Rom which had been developed for high school biology teachers in Sweden. The purpose of the CD-Rom is to increase the understanding on basic population genetics, forest tree gene conservation and tree breeding among the teachers. This would help them to forward the knowledge to pupils.

New proposals and initiatives

During the previous Network meeting, B. Schirone and F. Spada accepted a responsibility for developing a project proposal on biodiversity in the Mediterranean forest ecosystems. Only very few Network members provided feedback to further development of this proposal and it was discussed whether there still is interest among the Network to develop this proposal further. The general opinion was that the development of this effort should be continued. It was discussed that the scope of the project should be first identified and then Network members could be asked to join its further development. Regarding the scope of the possible project, the discussion emphasized that the approach should be multidisciplinary and that the environmental benefits of the Mediterranean forest ecosystems should be stressed. J. Koskela informed the participants that currently the next call of the EC 6th Framework Programme is being drafted and it will be published in January 2004. It was agreed that a full proposal could be developed to this forthcoming call, provided that there is a suitable topic area for it. B. Schirone and F. Spada agreed to follow up what will be the final content of the next call and then, if feasible, engage the Network members to the further development of the proposal.

EVOLTREE proposal

J. Koskela provided a short overview of the proposal submitted to the European Commission for the creation of a network of excellence on the genomics of forest

tree species. The title of the proposal is Evolution and Management of Diversity in European Forest Trees (EVOLTREE) and it aims to implement genomic approaches for monitoring, predicting and managing genetic diversity in European forest trees for sustainable resource management and environmental protection. The aim of EVOLTREE is to transfer basic knowledge of gene function and genetic biodiversity into the forest sector based on interdisciplinary research (genomics, population and quantitative genetics, ecology, ecophysiology, palaeoecology, reproductive biology, modelling, bioinformatics, conservation biology, silviculture).

EVOLTREE is a consortium of 32 partners from 14 different countries. Besides the very positive scientific evaluation, the proposal was rejected because forest genomics was not considered as a high priority topic. It is the intention of the coordinator (INRA, A. Kremer) to resubmit the proposal to the next call, which will be published in January 2004.

New EC Regulations on Genetic Resources in Agriculture

J. Koskela reported on the development of new EC Regulations on Genetic Resources in Agriculture. The EC is currently working on a revision of Regulation 1467 from 1994. The draft proposal was presented and discussed during two meetings held in Brussels in early 2003. The focus of this new Regulation will be on animal gene conservation and the budget will be € 7-10 million for a period of three years. The scope of the Regulation also include crop, microbial and forest genetic resources with the focus on conservation, characterization, collection, utilization, documentation and evaluation. On-farm conservation and inventories are likely to be also eligible but research activities are specifically excluded.

EUFORGEN is mentioned as the only forest-related framework in the draft document. First call is expected to open by the end of 2003 or early 2004, and a second call is scheduled for 2005 after 10 new countries have joined the EC. The Regulation is expected to provide funding for one or two forest-based projects. It was discussed that a joint proposal by the EUFORGEN Networks could be developed based on the Common Action Plan-concept.

Technical session

Technical Bulletin for cork oak

M.C. Varela updated the participants regarding the state of the Technical Bulletin for cork oak. It was then discussed that a section on genetic diversity of cork oak should be updated based on new research results. It was agreed that Network members from Italy, Spain and Portugal will sent relevant contributions for this section to R. Lumaret **before 30 November 2003**. She will then revise the section accordingly and send it to the Secretariat **before 15 December 2003**. If needed, other authors will then revise other sections and provide the revised text to the Secretariat **by 15 January 2004**. The Secretariat will circulate the full updated version to the Network members for their comments. They should then provide the final comments **by 30 January 2004** after which the Secretariat will proceed with the printing process of the

Technical Bulletin. The participants proposed that the Secretariat (J. Turok and J. Koskela) will coordinate and follow up with the finalisation process.

Technical Guidelines

J. Koskela provided an update to the state of the Technical Guidelines (TGs) production process. The six-page Technical Guidelines are specifically targeted for practical forest managers while Technical Bulletins are more comprehensive presentations of relevant information targeted for both scientists and managers. The first set of eight TGs was published in April 2003 and a second set will be printed in November 2003. A third set is scheduled for publication in February 2004.

The Network members then discussed the development of TGs and the distribution map for cork oak. It was proposed that the distribution map should be revised, especially regarding the occurrence of the species in North Africa (Algeria, Morocco and Tunisia). R. Lumaret informed that she will provide contact details of relevant persons in these countries for the Secretariat so that they can revise the distribution map in their countries. L. Gil and M.C. Varela agreed to develop a draft text for the TG **by 31 December 2003** after which the Secretariat will circulate the text for comments among the Network members.

Common Action Plan

J. Koskela provided an update to the development of common action plans (or "master plans") within the EUFORGEN Networks. The purpose of the common action plans is to coordinate and support implementation of practical gene conservation measures at national level. The concept involves establishment of a pan-European database of *in situ* gene conservation units using a few selected species as a model species. J. Koskela mentioned that the concept needs to be further developed in collaboration with all EUFORGEN Networks, especially what comes to data collection. He also mentioned that this further development and inventories of existing *in situ* conservation units in different countries would probably fit into the scope of the new EC Regulations on genetic resources in agriculture. As the number of projects that the EC will support on forest genetic resources is likely to be very low (1-2), it was discussed that it would useful if the Networks could develop a joint proposal instead of developing several competing proposals.

Relating to the common action plans, the participants discussed that distribution maps are also needed for other Mediterranean oak species in addition to the one the Network had already prepared for cork oak. It was agreed that the participants will provide information on the distribution of the priority oak species in their country to B. Schirone and F. Spada who will then develop compiled distribution maps for the whole Mediterranean region. Following the meeting, B. Schirone and F. Spada will send the participants detailed information regarding the format in which they would like to receive the distribution data. The deadline for sending the distribution data is **30 June 2004**.

Vienna MCPFE outputs and EUFORGEN Phase III

J. Koskela presented recent outputs from the MCPFE process, i.e. the fourth Ministerial Conference (28-30 April 2003) and the Expert Level Meeting (16-17 Oct 2003), both held in Vienna, Austria. After the EUFORGEN Steering Committee meeting in Sweden in June 2002, a Task Force produced a EUFORGEN strategy paper for the preparatory process of the Vienna Ministerial Conference. Based on this paper and other efforts, conservation of forest genetic resources were highlighted in the Vienna outputs.

Following the Vienna Ministerial Conference, the Liaison Unit organised the Expert Level Meeting to finalise a draft Work Programme, which was prepared by the Liaison Unit and the countries coordinating the MPCFE process. The draft Work Programme did not include forest genetic resources as a focus area. However, the EUFORGEN Secretariat provided feedback to the Liaison Unit and proposed several actions to be added into the Work Programme during the Expert Level Meeting. The adopted Work Programme now includes forest genetic resources as a focus area under the Vienna Resolution 4 (Forest Biological Diversity) with two actions: 1) Promote conservation of forest genetic resources as an integral part of sustainable forest management and continue pan-European collaboration in this area through EUFORGEN, and 2) International training programme on forest genetic resources as part of the collaborative capacity building programme “Conservation and use of biological diversity for development” that is being developed between IPGRI and the Government of Austria.

Furthermore, under the Resolution 5 (Climate Change and Sustainable Forest Management) and focus area ‘Adaptability of forests’, the Work Programme includes a workshop on the role of genetic diversity in improving adaptability of forests to climate change and in maintaining the productivity of forests under changing environmental conditions. IUFRO and EUFORGEN/IPGRI were identified as leading agencies to organise this workshop in 2005.

These MCPFE outputs imply that the EUFORGEN Phase III should continue implementation of the Strasbourg Resolution S2 on Conservation of Forest Genetic Resources and as a new element, also contribute to implementation of the Vienna Resolution V4 on Forest Biological Diversity by better linking gene conservation and forest management.

The participants then discussed the future of EUFORGEN and concluded that the Programme should continue for its third phase. The modus operandi of EUFORGEN was discussed in particular, i.e. whether EUFORGEN should continue working through species-oriented Networks, thematic Networks, a mixture of these or with some other way. During the discussions, different opinions were expressed and it was concluded that the modus operandi of EUFORGEN should include a mixture of species-oriented and thematic Networks. The discussion also emphasised that EUFORGEN should play an important role in advising national programmes on forest genetic resources and that genetic considerations should be included into practical forest management.

Seminar presentations

Global change and evolutionary genetics (G. Eriksson)

In his presentation, G. Eriksson mentioned that trees have always responded to changes in environmental conditions. What may be new is the speed of environmental changes owing to the greenhouse effect. The evolutionary principles are the same even if the speed of change is faster.

He further listed acclimation, seed dispersal, existing additive variance in important traits, mutation rates in these traits, speed of evolution and mating pattern as important factors for global climatic change. Acclimation or phenotypic plasticity is one means to cope with changed conditions. For long-term existence a species has either to migrate faster than the change or adapt to the change. Most ecologists believe that the migration rates are too low to cope with the predicted climatic changes. The complex interactions of evolutionary factors influencing within and among-population variation were schematically illustrated. The possible role of life-history traits was also outlined.

The fast changes observed for *Picea abies* progenies from German populations growing in Norway were presented. *A priori* it is expected that fragmentation will lead to a larger differentiation between populations. However, there are results showing that ”forced pollination” between two fragmented populations resulted in less differentiation. In conclusion, either the dispersal ability must be larger than the speed of environmental change or the genetic change must be larger than the speed of change for a species to survive in the long run.

Relevant climatic factors in the functional response of cork oak provenances (L. Gil)

L. Gil presented a study on 10 cork oak populations that were studied to analyse functional traits. He provided two main lines of research results: a record of different functional parameters and analyses of morphological and biochemical characteristics. Relationships between different indicators were calculated for the provenances and the results showed that tolerance to cold stress is correlated with the annual mean temperature of a provenance.

Population genetics of Quercus ilex and Q. suber at local scale in Spain (L. Gil)

L. Gil presented results of gene flow studies that were carried out in a mixed evergreen oak stand (*Quercus ilex* and *Q. suber*) in Central Spain. The objectives were to study gene flow at geographical scale using cpDNA and at local scale using molecular markers. The results indicated significant genetic structure among adult trees which was stronger the ones in other oak species. Parental analyses of cork oak revealed high gene flow from outside of the intensive study plot.

Mediterranean oaks and the 2003 forest fires in Portugal (M.C. Varela)

M.C. Varela reported the effects of the 2003 forest fires in Portugal. The forest fires took 18 lives, killed more than 11,000 animals, destroyed many houses and left hundreds of people homeless. The area burnt was 450,000 hectares equalling approximately 12 percent of the forest area. The main causes for the fires were exceptionally hot and dry summer and use of species like eucalyptus and maritime

pines. The natural oak forests are less fire-prone than the plantations of these species. She also mentioned additional problems for controlling the fires were created by political and administrative constraints.

Quantitative and qualitative characteristics of Quercus coccifera *as a fuel material (N. Nikolov)*

N. Nikolov provided some data on *Quercus coccifera* as fuel material. The data shows that the species produce highly flammable material as its leaves contain a lot of oil. Also, its tannin content is higher (11-16 %) than in other oaks. On average, one hectare of *Q, coccifera* woodland contain 55.8 tons of flammable biomass.

Mediterranean oaks in the Republic of Macedonia and proposed measures for their conservation (V. Andonovski)

V. Andonovski and J. Acevski presented all Mediterranean oaks that are native to Macedonia as well as their natural distribution in the country. They also presented the main plant communities in which the oaks are present. At the end of the presentation, V. Andonovski presented the proposed measures for the gene conservation of some Mediterranean oak species in Macedonia.

Morphological variability of the Mediterranean oaks in the Republic of Macedonia-herbarium presentation (J. Acevski)

J. Acevski provided a presentation of the Mediterranean oaks of Macedonia and displayed herbarium collections of various oak species. The oaks have high level morphological variation within the species and some of them have also produced hybrids.

All participants should provide an electronic version of their seminar papers to the Secretariat by **30 January 2004**. These will be published later as part of the printed meeting report.

Any other business

N. Ozel gave a short presentation on diversity of trees and other plant species in Turkey.

Date and place of next meeting

B. Schirone and F. Spada offered to organise the next meeting in Italy. The offer was accepted, provided that the Mediterranean Oaks Network will continue in its present form during Phase III of EUFORGEN. The tentative date for the next meeting is spring 2005. The Secretariat will follow up and inform the Network members after May 2005 when the Steering Committee has made decisions regarding Phase III. L. Gil offered Spain as a second option for the meeting. A theme for the next meeting was also discussed and hybridisation, introgression and sustainable forest management were proposed. The Secretariat will follow up once the Steering

Committee has decided new objectives for Phase III and decide the theme in collaboration with Chair, Vice-Chair and the local organisers of the next meeting.

Adoption of the summary of the meeting

The summary of the meeting was adopted and V. Andonovski closed the meeting. L. Gil and J. Koskela thanked the local organisers for the excellent meeting arrangements and the participants for their contributions.

Third meeting of the EUFORGEN Mediterranean Oaks Network
Ohrid, Macedonia, 6-8 November 2003

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