Bioversity International

No 44 - April 2012

# Bioversity International newsletter for Europe

## Inside this issue



## Bioversity International and Europe

*The Headquarters of Bioversity International in Maccarese, Italy. Photo: Dag Endresen/GBIF, Denmark*

## This is the last issue of Newsletter for Europe

As outlined in the editorial, "Bioversity International and Europe", the Regional Office for Europe is no longer in operation (as of March 2012). This edition of the Newsletter for Europe is therefore the last to be published. The two networks, ECPGR and EUFORGEN, will consider whether to produce their own newsletter in the future and you will be informed more about this. We would like to thank all our readers for their contributions and support to the Newsletter over the past 18 years.

The Staff
Regional Office for Europe

Previous issues are available from the Bioversity website: www.bioversityinternational.org



*Kwesi Atta-Krah*
*Deputy Director General, Programmes,*
*Bioversity International*

The Consultative Group on International Agricultural Research (CGIAR) has gone through a major reform during the past three years. As a result, the 15 research centres of the CGIAR family now operate as one consortium with a common vision and mission. A total of 15 new CGIAR Research Programmes (CRPs) are expected to deliver four system-level outcomes (increased food security, reduced rural poverty, reduced malnutrition and more sustainable management of natural resources). All research programmes focus on the developing regions of the world.

Bioversity International, one of the CGIAR Centres and host of the ECPGR and EUFORGEN Secretariats, has also reviewed its direction and developed a new strategy and organizational structure to better respond to global developments and challenges, including the CGIAR reform. This editorial is devoted to updating the readers on the most important changes in Bioversity with respect to the two European programmes on plant genetic resources.

The new Bioversity strategy has a specific vision of a world in which smallholder farming communities in developing countries are thriving and sustainable. The emphasis of Bioversity's work is therefore on developing regions of the world – in line with the whole CGIAR system. Bioversity's research will focus on the use of agricultural biodiversity by smallholders in developing countries and *in situ* conservation, including information systems and policy aspects of agricultural biodiversity. This means that Bioversity will not carry out direct research in Europe and other developed regions. However, it will continue maintaining contacts and strategic alliances with research organizations in these regions, in the framework of the global system on genetic resources and agricultural biodiversity. Bioversity will also continue to host the two European programmes, ECPGR and EUFORGEN, cooperate with the European Union on relevant activities and facilitate sharing the achievements of European research with the developing world.

All CGIAR funds will go to the work of the CRPs. Therefore, all research partnership arrangements between Bioversity and European institutes, including the hosting of ECPGR and EUFORGEN, must be wholly supported through special funds. The current funding arrangements of ECPGR and EUFORGEN are already in line with this principle.

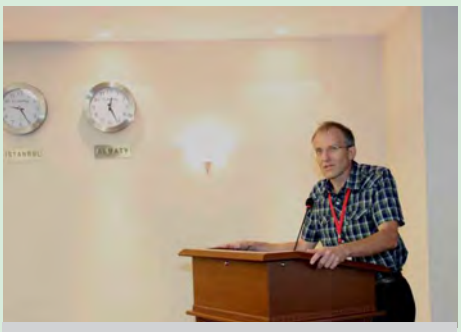
During its structural reorganization, Bioversity decided to close its Regional Office for Europe and

(*continued on last page*)

# Joint ECPGR /NENA PGRN Workshop on the ITPGRFA implementation

*Lorenzo Maggioni*
*Bioversity International*

*El Tahir Ibrahim Mohamed*
*Coordinator*
*NENA PGRN*
eltahir81@yahoo.com



*Top: The mosque at the International Agricultural Research and Training Centre of Menemen. Photo: L.Maggioni/Bioversity*
*Bottom: L.Maggioni delivering his presentation.*
*Photo: P.Hauptvogel, CVRV, Slovakia.*

As part of the activities of the ECPGR Inter-regional Cooperation Network, a joint workshop between ECPGR and the Near East and North Africa Plant Genetic Resources Network (NENA PGRN) was organized on 28-29 September 2011 in Menemen, Turkey, with the local support of the Aegean Agricultural Research Institute.

This workshop was dedicated to exchanging views, information and experiences related to the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty). The NENA PGRN Network was represented by the Coordinator and members from Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Sudan and Yemen. ECPGR was represented by the Secretariat and members from Germany, Sweden and Turkey. Finally, international organizations (Bioversity International, International Center for Agricultural Research in the Dry Areas (ICARDA) and Global Forum on Agricultural Research (GFAR)) were involved and also the Secretary of the Treaty, Mr Shakeel Bhatti, honoured the meeting with his attendance.

The workshop unfolded with presentations from both networks regarding the national and regional approaches to *ex situ* conservation, documentation and information, implementation of the Multilateral System (MLS) of the Treaty and its related policies and legislation. As the Treaty Secretary pointed out, the workshop in itself was an example of implementation of Article 8 of the Treaty on technical assistance to contracting parties.

The concept for a European Genebank Integrated System (AEGIS) was received as an interesting approach, even though NENA probably still needed to reflect on the most suitable method for collaboration in the conservation of *ex situ* PGR in its region. Among the examples provided by ECPGR, that also seemed to appeal to the NENA PGRN, was the online EURISCO catalogue of *ex situ* plant genetic resources. This was deemed an outstanding case, based as it is on National Inventory Focal points gathering data at national level and transferring them to a central online catalogue through a standard exchange format. A strong recommendation came from the meeting to the NENA PGRN, indicating the need to reach self-sustainability through the acquisition of firm national commitment as a pre-requisite for regional collaboration. Shared examples showing various approaches to policy and legislation conveyed the impression that strong and comprehensive coordination at national level generally achieves the most effective results and that there are cases where introducing new legislation may not be necessary. On the other hand, finding skilled staff is often a bottle neck in a number of countries and capacity building remains a high priority. Capacity building for the implementation of the Treaty, at both regional and national levels, was indicated by the NENA PGRN as an immediate need for effective implementation of the Treaty and its MLS in NENA.

This workshop paved the way for further exchanges of information between the two Networks and to possible opportunities for advice or training in the near future. It was also a successful example of interaction among two regions at the network level, probably one of the most effective ways to promote the principles of the Treaty and its implementation on a regional scale. The NENA PGRN has specifically expressed interest in future collaboration with ECPGR on different aspects of plant genetic resources conservation and management. Opportunities for similar joint workshops between ECPGR and other regional networks are under discussion with the Treaty Secretariat.

Read more at: http://www.ecpgr.cgiar.org/networks/inter_regional_coop/ecpgr_nena_pgr_workshop/summary.html

## News from ExCo

The second meeting of the ECPGR Executive Committee (ExCo) took place at ECPGR Secretariat headquarters in Maccarese, Italy, 17-19 October 2011. The interim Terms of References of the ExCo were finalized, as well as a new version of the objectives of ECPGR (to be discussed and approved by the Steering Committee (SC) at its next meeting scheduled for 4-7 December 2012 in Vienna, Austria). The ExCo set up a schedule of activities and shared tasks in order to complete the 'Options Paper' that will be submitted to the SC in December 2012. The items considered by the Paper will be the operational structure of ECPGR, its legal status, hosting arrangements and cost implications.

After replacement of two members of the ExCo, its composition is now : Gert Kleijer, Switzerland (Chair); Alvina Avagyan, Armenia; Zofia Bulińska, Poland; Fernando Latorre, Spain; Jens Weibull, Sweden and Lorenzo Maggioni, ECPGR Secretariat, *ex officio*.

# Joint PGR Secure/ECPGR Workshop: Conservation strategies for European crop wild relative and landrace diversity

*Shelagh Kell & Nigel Maxted*
*University of Birmingham*
s.kell@bham.ac.uk
n.maxted@bham.ac.uk


*Some of the 102 participants who came to the workshop from 38 countries. Photo: P.Hauptvogel/CVRV, Slovakia*

One of the goals of the EC-funded FP7 project, PGR Secure (www.pgrsecure.org) is to assist national PGR programmes to generate and implement conservation strategies for national crop wild relative (CWR) and landrace (LR) diversity. In joint collaboration with ECPGR, PGR Secure convened a workshop to discuss and agree a strategic approach to European and national CWR and LR conservation that will result in the systematic conservation of these important resources across Europe—the first time a systematic approach has been taken to CWR and LR conservation at a continental level.

The workshop, held on 7-9 September 2011 in Palanga, was organized by the University of Birmingham, University of Perugia, ECPGR and the Nature Research Centre (NRC), Lithuania and hosted by the NRC. It was attended by 102 participants from 38 European countries and the USA. National representatives were nominated by ECPGR National Coordinators—36 members of the Wild Species in Genetic Reserves Working Group and 32 members of the On-Farm Conservation Working Group of the ECPGR *In Situ* and On-Farm Conservation Network were nominated, along with 30 *In Situ* National Focal Points (NFPs) and 31 On-Farm NFPs [1] (associated with the ECPGR Documentation and Information Network).

The main topics discussed at the workshop were:

- How to create national CWR and LR inventories
- CWR and LR prioritization, diversity analysis and threat assessment
- Data collection, management and exchange
- Linking conservation to use
- Development and implementation of national CWR / LR conservation strategies by the ECPGR Network members.

The workshop consisted of a series of presentations on the current state of the art of CWR and LR conservation in Europe and available approaches and methods for CWR and LR conservation, illustrated with case studies and discussion sessions on the practical application of the approaches and methods, during which participants shared knowledge on current national activities and agreed on the way forward. The programme consisted of three plenary sessions and three parallel working group sessions—CWR conservation, LR conservation and information management.

Participants agreed on the general approach to the development of national CWR and LR conservation strategies and the issue of funding the planning of the strategies was debated. PGR Secure, via the project's helpdesk, agreed to provide a list of policy drivers that will help persuade governments to provide the funds needed, along with guidance on identifying relevant national obligations and how to take them forward. The workshop facilitators emphasized the need to design national strategies to suit individual countries, adapting the models discussed in the workshop in a flexible way according to available resources.

For a full report of the workshop, visit www.pgrsecure.org/palanga_workshop.

## Farewell to Jan Engels

This last newsletter also announces the retirement of one of Bioversity's longest serving and productive staff members, Jan Engels. Jan joined back in the early days of IBPGR (then based at FAO) and has fulfilled a number of important roles over the years, including Acting Regional Director, Europe (and NENA), as well as being Editor of this publication. Jan has also been AEGIS Coordinator and has supported Bioversity's work in this respect. He has been a strong believer and advocate in networks and networking, and has contributed significantly to strengthening Bioversity's relations and partnerships with various organizations in this regard. Jan has also been actively engaged in the Global Plan of Action and the Report on the State of the World in Plant Genetic Resources. His many publications are well documented, and he has been much sought after in various PGR processes and research initiatives, including on cacao. Whilst Jan is now officially retiring, his involvement with Bioversity doesn't end here as he has accepted to be an Honorary Research Fellow to the Organization and also continues to be the AEGIS Coordinator, working for ECPGR.

The members of the Europe office would like to extend their sincere thanks to Jan for his leadership and support over the last year and a half, and for his contributions and efforts as Editor of the Newsletter for Europe. We shall all miss his dedication, loyalty, dynamism and ready humour.

We know that you shan't have an idle retirement, Jan, but we wish you a well deserved and happy one !

Europe Group Colleagues

[1] Some participants are members of more than one Working Group

# *Allium* Working Group met for the seventh time in Thessaloniki, Greece

*Joachim Keller*
*Leibniz Institute of Plant Genetics and Crop Plant Research (IPK)*
keller@ipk-gatersleben.de

Onions and allied species were one of the first target crops for which the International Board of Plant Genetic Resources, IBPGR, took the initiative in 1982 to establish some international crop-specific organisation structures. With the support of Dave Astley, Wellesbourne, the first Chairman, Peter Hanelt, Gatersleben, Laszo Holly, Tápiószele, Haim Rabinowitch, Rehovot, Q. P. van der Meer, Wageningen and others, this Working Group was inaugurated in Tápiószele, Hungary, in May 1984. It has been active since that time through the various developmental periods of ECPGR, and it has also provided one of its mandate species, namely, garlic, as a model crop for the first period of the AEGIS establishment.

The sixth meeting was held in October 1997 in Plovdiv, Bulgaria, followed by special smaller activities, mainly focussing on vegetatively propagated alliums.

The seventh meeting took place on 6-8 September 2011 in Perea near Thessaloniki, Greece. Fifteen participants of the Working Group and six observers met, together with Jan Engels, AEGIS Coordinator, in the nice ambience of a beach hotel, but not to take a holiday! Three very busy days kept us together, revising the previous steps and concluding the further plans. Since vegetatively propagated crops are much more expensive in *ex situ* preservation, the focus of the group had been concentrated on garlic and shallot in the last few years. This was obvious also in this meeting, when the Coordinator of the European GENRES Project EURALLIVEG (European *Allium*, vegetatively propagated – website http://euralliveg.ipk-gatersleben.de), Joachim Keller, reported on the implementation of and conclusions from this project, and also on an AEGIS-funded project on cryopreservation of young inflorescence bases of garlic [Bioversity Newsl. Europe 43 (2011) p. 9]. Both projects were formed from the base of already well established good contacts between European collections and genebanks of the Czech Republic, France, Germany, Italy, the Netherlands, Poland, Portugal, and NordGen, which had developed in the frame of the *Allium* Working Group.

Regardless of the necessity to further support the vegetatively propagated germplasm, the need to work more on the seed-propagated alliums was underlined. Dave Astley had initiated a small action to use *A. ampeloprasum* as exemplar species for this, and there was some feedback from the collections about the preservation and safety-duplication status of this species. However, this could not be regarded as sufficient, and the members of the Working Group were asked to work more on seed-propagated species with the assistance of a priority list, which will be established by the end of 2012 and using *A. ampeloprasum* again as a model.

A technical tour brought the participants to the Greek Genebank, currently awaiting its new home in a new building where it is hoped it will continue successful development in the future.

The end of the meeting saw the resignation of Dave Astley from his position as the Chair of the Working Group. He has been charged with this function from the beginning of the activities, a period of some 29 years. This, and also his work as Coordinator of ECPGR's Vegetables Network, exhibited a substantial contribution to the implementation of germplasm preservation in general, which was honoured by the group members. J. Keller (Germany) and T. Kotlińska (Poland) were elected as new Chair and Vice-Chair, respectively. With the new leadership, the responsibility for the European *Allium* Database (EADB) was transferred from Wellesbourne to Gatersleben in January 2012. This and other actions will ensure continuity and further activities similar to that of the *Allium* Working Group.

*Words of welcome from the organizer, Dr Athanasios Tsivelikas. Photo: J.Keller, IPK, Germany*

# First accessions formally included in the European Collection

*Lorenzo Maggioni*
*Bioversity International*

*Jan Engels*
*Bioversity International*

It is with great pleasure that the Secretariat is able to report a significant development in the process of designing, developing and eventually operating AEGIS. On the 12th of December 2011, Joachim Keller, as the curator of the *Allium in vitro* collection at IPK, Gatersleben,Germany informed Frank Begemann, the National ECPGR Coordinator of Germany, that the *Allium* Working Group and Germany had agreed on a first batch of garlic accession numbers to be flagged in EURISCO as formally agreed European Accessions. This flagging has now been done in EURISCO and as such the European Collection has been born (see http://aegis.cgiar.org/european_collection.html).

The process of selecting and preparing garlic accessions for their subsequent formal acceptance by the host countries has been followed by the European Project EURALLIVEG, which had benefited from a grant of the European Commission in the frame of the Council Regulation No 870/2004 of the DG Agriculture. This project was successfully concluded in March 2011. The main objective of the project was the establishment of a safety-duplicated cryopreserved garlic collection. The accessions used in the project were selected in accordance with the criteria for candidate European Accessions, as agreed upon by the ECPGR Steering Committee and the *Allium* Working Group.

It should be noted that each of the accessions that have been proposed for flagging as a 'European Accession' are conserved both in the field as well as in cryopreserved conditions. The accessions have also been safety-duplicated, either at IPK, Germany, at the Crop Research Institute (CRI) Prague Ruzyne, Czech Republic, or at the Institute of Horticulture (RIVC) Skierniewice, Poland. The proposed accessions are under governmental control and management of the Czech, German and Polish government. Furthermore, IPK, Germany and CRI, Czech Republic as AEGIS Associate Member Institutions, have accepted long-term conservation responsibilities for these accessions in accordance with the AEGIS agreed standards, and will make them readily available under the terms and conditions of the Standard Material Transfer Agreement.

Based on a review of the data supplied and the acceptance of the listed conditions, the National Inventory Focal Points in Czech Republic and Germany have been instructed by the respective National Coordinators to flag the agreed accessions in EURISCO, using descriptor 35 on the AEGIS status. These first flagged accessions of the European Collection can be found on the EURISCO website: http://eurisco.ecpgr.org/. The ECPGR Secretariat has been informed that Poland is also in the process of accepting and flagging other garlic accessions that were part of the EURALLIVEG project and that are being maintained in Skierniewice as European Accessions. We hope that this is only the beginning of rapid growth for the newly established European Collection.

A cryopreservation experiment showing clonal uniformity. *Photo: J.Keller, IPK, Germany*

# First meeting of the Solanaceae Working Group and ad hoc meeting of the Solanaceae database managers

*Lorenzo Maggioni*
*Bioversity International*

The first meeting of the Solanaceae Working Group (WG) was held in Menemen, Turkey, on 15-17 February 2012, preceded by an ad hoc meeting of five Solanaceae database managers and the Vice-Chair, on 14 February.

The meeting, organized with the assistance of the Aegean Agricultural Research Institute (AARI), was held at the International Agricultural Research and Training Center (IARTC). Fourteen Working Group members and two database managers attended the meeting, together with six international or local observers and the ECPGR Coordinator.

Although this was the first 'official' meeting of the WG, previous meetings were held as ad hoc meetings, in the framework of joint initiatives. The WG had actually passed its 10th anniversary since its first gathering in September 2001.

During the ad hoc meeting, the database managers realized that efforts made to improve the quality of the Central Crop Databases (CCDBs) were often not reflected in EURISCO. On the other hand, EURISCO was not hosting sufficiently detailed crop-specific data to be used for the analysis of the collections (for gaps, duplicates, etc.). Consequently, a recommendation was made that EURISCO should become the primary database for crop data analysis, aiming to eliminate the duplication of efforts currently dedicated to the CCDBs. Expansion of EURISCO was therefore recommended in order to host all the crop-specific data that are necessary to analyse the existing European collections, including standardized minimum characterization data. In this way, EURISCO could be directly used to identify AEGIS candidate accessions. This recommendation will be channelled to the ECPGR Documentation and Information Network for discussion. The managers of the Solanaceae Databases (Tomato, Eggplant, Pepper, Pepino, *Physalis* and *Cyphomandra*) agreed they want to take responsibility for monitoring their crop-specific part of the data in EURISCO for quality, consistency and gaps, instead of the CCDBs. They will also see that appropriate adjustments are made by the data providers in the original data and consequently in the National Inventories and in EURISCO.

During the plenary session, the group agreed on a road map with selection criteria to be used for selecting European Accessions. With the aim of immediately identifying a number of suitable accessions that could be designated as European Accessions, the Group split into sub-groups and actually analyzed the existing databases as far as possible, given the data incompleteness. After searching for unique samples held in various AEGIS member countries, the sub-groups were able to identify about 200 candidate Solanaceae accessions to be included in the European Collection. The respective holding countries will be approached, in order to seek the formal inclusion of these accessions into AEGIS. Representatives from Germany, Hungary, the Netherlands, Poland and Slovakia expressed their willingness to include additional accessions in the European Collection and it is expected that the process of selection and designation of Solanaceae accessions will be concluded with a first batch of designated accessions by September 2012. Representatives from other countries were also invited to participate in this process.

An advanced draft of the FAO Genebank Standards for the conservation of orthodox seeds was discussed by the Group and eventually adopted in principle, with an agreement that the genebanks should strive to follow these standards. It was felt that there was no need to develop more stringent crop-specific standards.

Safety-duplication of Solanaceae accessions was an important point on the agenda, since the group is aiming to promote the security of the collections. A small part of the WG budget was made available to help countries that would need support to complete safety-duplication. Bulgaria and France expressed the intention to make use of this opportunity.

Willem van Dooijeweert, The Netherlands, and Marie-Christine Daunay, France, were reconfirmed as Chair and Vice-Chair of the Group. Further details on the meeting are available from http://www.ecpgr.cgiar.org/networks/vegetables/solanaceae2012.html.

*Top: Ancient ruins of Ephesus, Turkey.*
*Bottom: Dried eggplant, pepper and okra at Sirince market, Turkey.*
*Photos: L. Maggioni/Bioversity*

# Assessment of Unique Material in the European Collections of Umbellifer Crops

*Charlotte Allender*
*University of Warwick*
Charlotte.Allender@warwick.ac.uk

Umbellifer crops are well represented in European *ex situ* collections; in total about 10 390 accessions of carrot, celery, parsnip, dill, caraway, coriander, parsley, fennel and chervil were listed in the EURISCO database in May 2010. Given the size and diversity of the collections, both in terms of species and numbers of accessions, it became obvious that the identification and selection of Most Appropriate Accessions (MAAs) as required by AEGIS (A European Genebank Integrated System) would be challenging. Selection of MAAs is necessary to ensure that redundancy and duplication is kept to a minimum which permits more efficient collection management whilst maintaining the conservation of crop genetic diversity.

The project itself involved seven partners (the Agricultural Technology Transfer Center of Lushnje, Albania, Crop Research Institute Olomouc, Czech Republic, Central Agricultural Office Department for Agrobotany, Hungary, Agrocampus Ouest, Angers, France, Nordgen, Sweden and the Georgian Research Institute of Farming, Georgia) and was coordinated by the University of Warwick, UK. It aimed to produce a draft list of MAAs based on previous efforts within other ECPGR Working Groups. The experiences of the *Brassica* Working Group were of particular interest as the biology of the two crop groups are similar (both are outbreeding and seed-propagated). An early decision was made to focus on carrot as a model for the other umbellifer crops as project partners had a high level of familiarity with the diversity of the carrot genepool and also because cultivated carrots are characterized by 'umbrella' types based on root shape (for example Nantes, Chantenay, Berlicum). The variety type is often reflected in the variety name, making an assessment of the distinctness and uniqueness of multiple accessions with the same or similar names difficult.

The first project workshop held on 13th and 14th October 2010 at the University of Warwick provided project partners with the opportunity to discuss the benefits and relevance of AEGIS to their own collections. This was necessary so that a unified approach and understanding could be achieved, benefiting the outputs of the project. The workshop was extremely useful in giving project partners the opportunity to work together through a small subset of the EURISCO carrot data; the descriptive data associated with accessions is variable in terms of completeness, so working through some of the data as a group proved valuable in terms of deciding on a common approach. Another issue highlighted was the fact that some carrot material was not listed in EURISCO due to a lack of immediate availability but was potentially significant in the context of AEGIS. Details of these accessions were added to the EURISCO dataset before it was divided among the project partners to work through according to an agreed set of criteria in the months after the workshop. In total 2498 accessions were considered and project partners worked through a set of 500 accessions each, assigning each accessions as either a potential MAA, not an MAA or to be queried with the relevant collection curator.

*Recognizable by its distictive central black flower, wild carrot (*Daucus carota*). Photo: L.Maggioni/Bioversity*

The second workshop was held jointly with a meeting of the Umbellifer Crops Working Group in Quedlinburg, Germany in March 2011. This provided an opportunity for project partners to discuss problems and questions they encountered in the application of the agreed criteria, and to discuss the project with the wider Working Group to obtain their impact. In total, 45% of the original 2498 accessions were identified as potential MAAs. These would then need to be approved by the curators and the national coordinators of the holding countries. A revised workflow for the identification of MAAs was prepared for the final project report which will serve as a reference for future work on different umbellifer crops. Project partners concluded that the selection of MAAs will never be entirely objective due to the level of missing data which prevent straightforward selection criteria from being applied. When selecting MAAs from groups of potential duplicates (similar accession names), 'Country of Origin' is an important criterion, which can potentially identify duplicate samples of commercial varieties and give priority to accessions conserved in their country of collection. In the case of large groups of accessions with similar or identical names, 20% of the group should be selected as MAAs to maximize the coverage of genetic diversity (e.g. different collection locations or well separated collection dates).

In summary, the project was successful in designing a workflow for the selection of MAAs in carrot which can be applied to the other umbellifer crops. This very necessary work is required in order to identify accessions to be held as part of a European Collection within AEGIS so that the collection represents an appropriate balance between maintaining genetic diversity and reducing redundancy.

# EUFORGEN Working Groups make progress

*Jarkko Koskela*
*Bioversity International*

*EUFORGEN Working Group on genetic monitoring during the first meeting in Maccarese. Photo: Bioversity International.*

Recently, two new EUFORGEN Working Groups began preparations for further actions on conservation and monitoring of forest genetic resources in Europe. The first group is developing a pan-European genetic conservation strategy for forest trees. This work builds on the earlier efforts carried out by the EUFORGEN Networks and the EUFGIS project (Establishment of a European Information System on Forest Genetic Resources, 2007-2011). The second group is reviewing options and methods for genetic monitoring of dynamic conservation units of forest trees in Europe.

The Working Group on conservation strategies met for the first time at Bioversity on 2-4 November 2011 and continued its work during the second meeting which was hosted by the Italian Agricultural Research Council and its Research Unit for Intensive Wood Production (CRA–PLF) in Casale Monferrato on 14-16 February 2012.

The Working Group recognized the importance of conserving both adaptive and neutral genetic diversity of forest trees, but decided to give priority to adaptive diversity. Subsequently, the conservation strategy aims at conserving the adaptive diversity of forest trees throughout their distribution ranges. A climatic stratification of Europe will be used as a proxy for characterizing the adaptive diversity conserved in the genetic conservation units across the continent. Gaps in the conservation efforts will be identified based on the country borders and climatic zones within each country. Furthermore, the Working Group will select the most valuable genetic conservation units at the pan-European level for the establishment of a core network of dynamic conservation units for model trees species. The selection will be carried out using the EUFGIS database and each core network should cover all countries and climatic zones within the distribution ranges of a given species. For this purpose, the Working Group identified 12 model tree species representing stand-forming and scattered species with wide and limited distribution ranges.

The second Working Group on genetic monitoring also organized its first meeting at Bioversity on 14-16 February 2012 and is now continuing its work for the second meeting, due to be held in Madrid at the end of May. The main task of this group is to review different monitoring approaches and related literature, and then present options for creating a pan-European genetic monitoring scheme for the dynamic conservation units of forest trees. It will also carry out a cost assessment for the identified options and provide recommendations for adding new data standards to the EUFGIS database.

Genetic monitoring aims at quantifying temporal changes in genetic processes and demographic characteristics of tree populations and thus it is necessary for evaluating the long-term success of genetic conservation efforts. The debate on genetic monitoring, as part of conservation genetics, started about 25 years ago and several monitoring approaches have also been presented for forest trees. However, the problem is that most approaches presented so far involve numerous genetic and demographic parameters and their measurement requires a considerable amount of time, expertise and financial resources.

The two Working Groups will present their results and recommendations for further discussion at the EUFORGEN workshop on conservation and monitoring of forest genetic resources which will be held in Järvenpää, Finland on 18-20 September 2012. The workshop will be organized in collaboration with the Finnish Forest Research Institute. In addition to conservation strategies and monitoring approaches, the workshop will also discuss ways to improve the management of the genetic conservation units in Europe.

The workshop recommendations will be included into the reports of the Working Groups which will be presented to the EUFORGEN Steering Committee in Paris in November 2012. The Steering Committee will then make decisions regarding the implementation of the genetic conservation strategies and monitoring options.

Further information on EUFORGEN activities is available on the website www.euforgen.org.

# New European research project on forest genetic resources

*Jarkko Koskela*
*Bioversity International*

A new research project, Towards the Sustainable Management of Forest Genetic Resources in Europe (FORGER), was launched in March 2012. The four-year project is funded by the European Commission (FP7-KBBE) and coordinated by Alterra (Netherlands). Its overall goal is to enhance the conservation and use of forest genetic resources as part of sustainable forest management in Europe.

The project partners, a representative of the EC and members of the Advisory Board gathered in Wageningen on 8-9 March 2012 for a kick-off meeting during which they planned the project activities for the first year. In addition to Alterra, the partners include the Austrian Federal Research and Training Centre for Forests, Natural Hazards and Landscapes (BFW), the German Federal Research Institute for Rural Areas, Forestry and Fisheries (vTI), the French National Institute for Agricultural Research (INRA), the Finnish Forest Research Institute (Metla), the University of West Hungary (NymE), Bioversity International, the Italian National Research Council (CNR) and the Kazimierz Wielki University (UKW, Poland).

The FORGER project will focus on improving inventories on forest genetic resources in Europe, developing a common protocol for measuring and monitoring genetic diversity, and analysing historic and current use and exchange of forest genetic resources in Europe. Based on the results, the project will also develop improved tools, guidelines and recommendations for forest managers and policy-makers on the conservation and use of forest genetic resources. Throughout the project period, the partners will disseminate and communicate their results to various stakeholders, including the European Forest Genetic Resources Programme (EUFORGEN).

As part of the inventory work, the project will link the EUFGIS Portal and the Geo-Referenced Database of Genetic Diversity (GD2). The GD2 database was developed as part of the EVOLTREE Network of Excellence and is being maintained by INRA. It contains genetic diversity data on tree populations and genotypes of individual trees in Europe. By linking this data with the information on genetic conservation units of forest trees in the EUFGIS Portal, it is possible to assess the effectiveness of current genetic conservation efforts of forest trees across their distribution ranges in Europe. This work will also integrate relevant environmental databases for the gap analysis. Furthermore, the FORGER project will collaborate with another new EU project, TREES4FUTURE (Designing Trees for the Future), which will further integrate research infrastructures (including databases) for forestry research.

The development of a genetic monitoring protocol will be based on a pilot study testing a set of demographic and genetic parameters for model species, such as European beech (*Fagus sylvatica*), maritime pine (*Pinus pinaster*), Norway spruce (*Picea abies*) and pedunculate oak (*Quercus robur*). The field testing will be carried out at 16 sites consisting of genetic conservation units, EVOLTREE Intensive Study Sites and forest stands with different levels of management. This pilot study will provide valuable information and experience for designing a practically applicable genetic monitoring protocol to be used as an early warning system for critical changes in tree genetic diversity (see the previous article on page 8).

In addition to being a stakeholder, the EUFORGEN community will also provide scientific and technical inputs to the FORGER project. Furthermore, the FORGER Advisory Board consists of three members of which two are representatives of the EUFORGEN Steering Committee. During 2012, three expert consultations will take place with the participation of the EUFORGEN Working Groups and the EUFGIS National Focal Points. The database-related aspects will be discussed at a EUFORGEN workshop in Szombathely, Hungary on 8-10 May 2012, while genetic conservation and monitoring will be the focus during another workshop in Järvenpää, Finland on 18-20 September 2012. The third expert consultation will be organized, together with the EUFORGEN Working Group on forest reproductive material, in spring or summer 2012.

The FORGER project will soon launch a website which will provide further details on the project activities and outputs. In the meantime, additional information on FORGER can be obtained from the project coordinator, Dr Koen Kramer (koen.kramer@wur.nl).

Quercus robur, Picea abies, Fagus sylvatica, Pinus pinaster.
*Photos: (top) Kari Pihlaviita/Flickr; Joost J.Bakker IJmuiden/Flickr (bottom left); Barbol/Flickr (bottom right)*

# FORESTTRAC project enhances awareness on future research needs in forest genomics

*Barbara Vinceti*
*Bioversity International*

The FORESTTRAC project (www.foresttrac.eu) is approaching its end (April 2012) and its outputs are fully taking shape. The main product of this collaborative initiative will be a roadmap for transatlantic research collaboration between European and North American scientists in the area of forest genomics over the next ten years.

The draft roadmap was presented at a stakeholder event organized in Brussels in October 2011, attended by a range of forest experts and staff of the European Commission, with representations from various Departments. The document was well received and supported. Project coordinator, Antoine Kremer from INRA, France, said he was pleased with the meeting.

One key piece of advice received from the EC was that in order to be competitive within the Horizon 2020 (a future Framework Programme), it will be necessary to gather as much support as possible in favour of projects flowing from the FORESTTRAC roadmap, emphasizing the innovatory elements of the proposed research.

So, what might a research project emerging from FORESTTRAC look like? A likely focus, says Antoine Kremer, is work on the basic evolutionary mechanisms for trees to adapt to future environmental change.

"We have evidence that these mechanisms are active because they contributed in the past to adaptation during natural global warming. We now need to evaluate how they will operate in different ecological settings in North America and Europe", he says.


*Draft of the FORESTTRAC strategic roadmap.*

Most importantly, the discussions focused on how best to ensure future funding from both North America and Europe to take the roadmap forward to future research projects. This is a considerable challenge with such a wide range of funding mechanisms operating with different timetables and selection criteria. A major conclusion was that while scientists readily cooperate and collaborate across the Atlantic, agreeing to share their resources, infrastructure and knowledge to tackle big issues such as climate change, this is currently not the case for the donors.

Following the Brussels meeting, the final roadmap will be ready in April 2012. After that, there will be further dissemination efforts.

Interviews and presentations from the Stakeholders' event can be found at: http://www.foresttrac.eu/index.php/news-list/55-stakeholders-event-2011

Other interesting products of FORESTTRAC are 'white papers' derived from expert consultations on research topics contributing to the understanding of forest ecosystems responses to global changes (i.e. evolutionary genetic change in response to climatic change; the role of foundation species in ecological processes; long distance gene flow and adaptation; epigenetic response to climatic change). For each research theme, the white papers present the current knowledge and future research priorities; the papers are available at the project website http://www.foresttrac.eu/index.php/component/content/article/65/50-workshops

The roadmap will be available at: http://www.foresttrac.eu/

## International Year of Forests 2011 closes at UN Headquarters

The International Year of Forests 2011 (IYF) came to an end with closing speeches and an awards ceremony held at UN Headquarters in New York, USA, and hosted by the UN Forum on Forests (UNFF) Secretariat. The closing event included the Forest Heroes Awards, announcement of the winners of the 2011 Universal Postal Union's international letter-writing competition winners, as well as the 2011 International Children's Art Contest to "Celebrate the Forests"; screening of film clips from the award-winning International Forest Film Festival; and launch of the "Forest for People" book.

Through many activities, the 2011 International Year of Forests helped promote awareness of the issues facing the world's forests and those who depend on them. Forests cover 31 per cent of the world's total global land area, store more than 1 trillion tons of carbon and provide livelihoods for more than 1.6 billion people. Deforestation accounts for 12 to 20 per cent of the global greenhouse gas emissions that contribute to global warming.

The front page article of the Newsletter for Europe No. 43 (July 2011), "The World Celebrates its Forests in 2011", focused on these important issues, highlighted the achievements of the EUFGIS project and included updates on the State of the World's Forest Genetic Resources and the work of Forest Europe.

# Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe

*www.ecpgr.cgiar.org*

*Prof. Johannes Novak*
*Institute for Applied Botany and Pharmacognosy, Vienna University of Veterinary Medicine,*
Johannes.Novak@vetmeduni.ac.at

The majority of species of the genus *Origanum* (oregano) have been used as a spice for thousands of years, but *Origanum* species are also widely used in folk medicine due to their many different biological activities (antibacterial, fungicidal, antiviral, nematicidal, antioxidant, antimutagenic and spasmolytic). Indeed, these high antibacterial and antioxidant contents have recently opened new fields of application as a substitute for growth promoters in feed banished by the EU and as a natural antioxidant in food.

The main objectives of an ECPGR-funded project, organized by the Working Group on Medicinal and Aromatic Plants were to survey European native populations of wild oregano (*Origanum vulgare* L.), the species in the genus with the widest distribution area and a high economic value, and to characterize its genetic and chemical variability. In the framework of this project, populations were documented and sampled in each of the 19 participating countries.

The genus *Origanum* originates from the eastern Mediterranean area, and therefore, a migration of wild oregano from this area to the rest of Europe could be expected. In fact, such a genetic gradient could be observed from east to west, but not from south to north. The oregano populations from the Iberian Peninsula are very closely related to each other and form a quite distant group from the other European populations. However, a clear gradient from east to west could be observed. The populations from Scandinavia and the Baltic states, however, have their next relatives not, as we would expect, in populations from Central Europe, but are very closely related to populations from the West Balkan states. Interestingly, Norwegian and Finnish oregano populations have different origins in the Mediterranean and are not as closely related as their geographical distance would assume.

The use of *Origanum* species as a spice is based mainly on its essential oil content and composition, which is highly variable in the genus. The Mediterranean countries, which are known for their high-quality oregano, showed, as could be expected, the highest essential oil content. While the standard essential oil content of oregano on the market is around 2 to 3 per cent, some populations show maximum values of above 5 per cent, demonstrating the high selection potential for maximizing the essential oil content. The overall highest essential oil content was found at 7 per cent.

Besides the essential oil content, the sensorial property of oregano was linked to the composition of the essential oil, which was extremely variable, with obvious occurrences of different chemotypes. The monoterpenes carvacrol and/or thymol are responsible for the typical oregano flavor. This specific 'oregano' chemotype occurs exclusively in the Mediterranean area from Turkey to Portugal. The other two major chemotypes are a linalool type (another monoterpene) found on the Iberian Peninsula and a type rich in sesquiterpenes, such as B-caryophyllene, germacrene D and caryophyllene oxide, the dominating chemotype in the central and northern European countries.

In the future, it will be interesting to extend the study of chemical variability to compound groups which are responsible for oregano's high antioxidant potential. Here, the genetic potential for a highly antioxidant oregano is not yet exploited, but could lead to substituting synthetic antioxidants in food.

# A traditional harvest festival

*Emilija Simeonovska*
*Institute of Agriculture*
*Skopje, Macedonia FYR*
e.simeonovska@zeminst.edu.mk

*Ilina Jakimovska*
*Institute of Ethnology and Anthropology, Faculty of Natural Science and Mathematics*
*Skopje, Macedonia FYR*
ilina@pmf.ukim.mk

An ancient and interesting event took place during the harvest in July last year in a small, experimental field at the Institute of Agriculture in Skopje, Republic of Macedonia.

The regular regeneration and characterization activities of the wheat accessions were followed by an ancient ritual performed to celebrate the end of the harvest. This old custom was described and initiated by a seasonal worker at the Field Crops Department who conducted the ceremony in the same way as it is performed in the villages around the city of Prilep (Western Macedonia), where she was born and grew up. The scientific staff members of the Institute were pleased to take part since, for most of them, this old rite represented a new and interesting social occasion.

On the last day of the cereal's harvesting, a sheaf of ears was cut and used to make the grain garland. The ears (bearded) were tied by white wool threads, decorated with flowers and coloured wool decorations (blue to symbolize male and red symbolizing female). A banknote was also inserted within the spikes of the garland. The last clutch of grain was tied by red wool thread and flowers. It wasn't reaped, but left uncut, standing upright in the field, representing 'God's beard' or 'grandfather's beard'. The solemn procession of reapers carried the last harvested grain from the field to the grain storage room. The woman carrying the grain garland was in the front of the procession, not being allowed to smile or talk along the whole way (a little stone under her tongue reminding her of this rule!). Upon arrival in the storage room, the woman put the garland over the harvested grain, then everybody gave blessings for abundance and happiness. The ceremony finished with a small party.

According to the ethnologists, this kind of ritual represents the *imitative magic* dating back to the Pagan era and continuing into Christian times. Their performance has been reported in many regions of our country, but several variations of 'beards' or 'corn dollies' are to be found all over the world.

Unfortunately, these traditional ceremonies are gradually disappearing in Macedonia, but the experimental field station at the Institute of Agriculture in Skopje is deeply motivated in keeping them as part of its rich, cultural heritage.

*Grain garland hanging over the harvested grain, for abundance and happiness. Photo E. Simeonovska/ Institute of Agriculture, Macedonia FYR*

**Bioversity International**
**Via dei Tre Denari 472/a**
**00057 Maccarese**
**Rome, Italy**

(*continued from first page*)
integrate the ECPGR and EUFORGEN Secretariats into its new structure, i.e. the new Conservation and Availability of Genetic Resources and Conservation and Use of Forest Genetic Resources programmes, respectively. The current contractual arrangements between Bioversity and the member countries of ECPGR and EUFORGEN will remain valid until the end of the current Phases (2013 for ECPGR and 2014 for EUFORGEN), when new arrangements will be negotiated.

The work programmes and research agendas of ECPGR and EUFORGEN, determined by the respective Steering Committees, will not be affected in any way by these changes or the new strategy of Bioversity. When appropriate and feasible, Bioversity will consider contributing to certain areas of work that are of common interest to the Organization and the regional programmes. As an example, Bioversity will continue making budgetary and in-kind contributions to EURISCO in the framework of the global accession level information management system (GENESYS) that is being developed with funds from the Global Crop Diversity Trust, and presently coordinated by Bioversity in close consultation with the other CGIAR centres and the Secretariat of the International Treaty.

In conclusion, the hosting of ECPGR and EUFORGEN at Bioversity will continue to create synergies and benefits to both Bioversity and the member countries.

## New publications

**Teaching Agrobiodiversity: a curriculum guide for higher education**
**Editors: Rudebjer P, Chakeredza S, Njoroge K, van Schagen B, Kamau H, Baena M.**
The publication discusses key issues in agrobiodiversity education, drawing on recent consultations with higher education institutions in Africa, Latin America and Asia-Pacific. A curriculum framework for agrobiodiversity learning is presented, introducing 14 key topics along with key learning points, suggested contents, bibliography and internet resources.
More at: http://www.bioversityinternational.org/index.php?id=19&no_cache=1&user_bioversitypublications_pi1[showUid]=6170

**Roots of our people. Fruit trees and their custodians in Kyrgyzstan and Tajikistan. Van Oudenhoven, F.**
Some of the world's most important fruit species find their origin in the mountains of Central Asia. Over the centuries, nature and man have shaped these fruits into a diversity that has become a mainstay of everyday survival. This booklet is a tribute to some of the farmers who are contributing to the conservation of that diversity in Kyrgyzstan and the Tajik Pamirs.
More at: http://www.bioversityinternational.org/nc/publications/publication/issue/roots_of_our_people.html

## Obituary – Erna Bennett
## Pioneer of Genetic Conservation

Erna Bennett, leading scientist and one of the first to highlight the problems of genetic erosion and the importance of conserving agricultural biodiversity, died in Scotland on 3 January 2012, aged 86. She was instrumental in shaping plant genetic conservation research during the 1950s and 1960s and her influence continues to this day.

This colourful, Ulster born woman saw active service in the Second World War, carried out research in cytogenetics in England and Ireland (which resulted in her PhD thesis on genecology), worked at a Scottish plant breeding station and succeeded in mobilizing the UN's Food and Agriculture Organization (FAO) to become involved in collecting the genetic resources of crop plants in a number of countries. In her opinion, it was always the farmers who stood at the centre as the custodians of genetic diversity.

Erna was also responsible for coordinating national and international exploration on genetic conservation in the Mediterranean, Asia and Afghanistan, also initiating the first ever world survey of crop germplasm collections.

Another highlight of Erna's career was the book she co-authored and edited with another early campaigner, Sir Otto Frankel, "Genetic Resources in Plants", published in 1970 and still in wide circulation and use. She was also the editor of the "Plant Genetic Resources Newsletter" for several years.

However, perhaps her most lasting legacy is that she can be attributed to giving birth to the phrase 'genetic conservation', a term now widely used, and one which has taken on increased importance and significance over the past decade.

## Forthcoming meetings and events

**16-21 Apr 2012**
2nd Session of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) Plenary Meeting, Panama City, Panama

**19-20 Apr 2012**
SOLIBAM Stakeholder congress: Shaping the future of agriculture: The role of diversity in low-input and organic cropping systems, Rome, Italy

**28 May-2 Jun 2012**
6th European Botanic Gardens Congress, Chios, Greece

**5-6 Jun 2012**
International Conference for 130th Anniversary of the Agricultural Science, Sadovo, Bulgaria

**18-20 Sep 2012**
EUFORGEN workshop on conservation and monitoring of forest genetic diversity, Järvenpää, Finland

**21-23 Nov 2012**
3rd International Symposium on Medicinal Plants, their Cultivation and Aspects of Uses, Petra, Jordan

## This Newsletter was produced by the staff of the Regional Office for Europe

**Jan Engels**
Interim Regional Director & AEGIS Coordinator
Tel: 39-066118222
j.engels@cgiar.org

**Vanessa Alam**
Programme Assistant
Tel: 39-066118261
v.alam@cgiar.org

**Michele Bozzano**
Programme Specialist
Tel: 39-066118221
m.bozzano@cgiar.org

**Sónia Dias**
Programme Specialist
Tel: 39-066118204
s.dias@cgiar.org

**Ewa Hermanowicz**
Programme Assistant
Tel: 39-0661181229
e.hermanowicz@cgiar.org

**Lidwina Koop**
Programme Assistant
Tel: 39-066118251
l.koop@cgiar.org

**Jarkko Koskela**
EUFORGEN Coordinator
Tel: 39-066118223
j.koskela@cgiar.org

**Elinor Lipman**
Scientific Assistant
Tel: 33-467611302
e.lipman@cgiar.org

**Lorenzo Maggioni**
ECPGR Coordinator
Tel: 39-066118231
l.maggioni@cgiar.org

**Barbara Vinceti**
Scientist
Tel: 39-066118412
b.vinceti@cgiar.org

**Editing**
Vanessa Alam
v.alam@cgiar.org

**Layout**
Ewa Hermanowicz
e.hermanowicz@cgiar.org