

Report of a Working Group on Medicinal and Aromatic Plants

Fourth Meeting, 29 September-1 October 2009, Kuşadası, Turkey
A.M. Barata, Å. Asdal and E. Lipman





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Bioversity International is an independent international scientific organization that seeks to improve the well-being of present and future generations of people by enhancing conservation and the deployment of agricultural biodiversity on farms and in forests. It is one of 15 centres supported by the Consultative Group on International Agricultural Research (CGIAR), an association of public and private members who support efforts to mobilize cutting-edge science to reduce hunger and poverty, improve human nutrition and health, and protect the environment. Bioversity has its headquarters in Maccaresse, near Rome, Italy, with offices in more than 20 other countries worldwide. The organization operates through four programmes: Diversity for Livelihoods, Understanding and Managing Biodiversity, Global Partnerships, and Commodities for Livelihoods.

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The European Cooperative Programme for Plant Genetic Resources (ECPGR) is a collaborative programme among most European countries aimed at facilitating the long-term conservation and the increased utilization of plant genetic resources in Europe. The Programme, which is entirely financed by the member countries, is overseen by a Steering Committee composed of National Coordinators nominated by the participating countries and a number of relevant international bodies. Bioversity International provides the Coordinating Secretariat. The Programme operates through nine networks in which activities are carried out through a number of permanent working groups or through ad hoc actions. The ECPGR networks deal with either groups of crops (cereals; forages; fruit; oil and protein crops; sugar, starch and fibre crops; vegetables) or general themes related to plant genetic resources (documentation and information; *in situ* and on-farm conservation; inter-regional cooperation). Members of the working groups and other scientists from participating countries carry out an agreed workplan with their own resources as inputs in kind to the Programme.

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Origanum vulgare L. growing in a coastal habitat in the south-eastern part of Norway, courtesy of © Å. Asdal, Norwegian Genetic Resources Centre, Ås, Norway.

Tanacetum balsamita L. (accession no. BVAL-901064) and *Thymus x citriodorus* (Pers.) Schreb. (accession no. BVAL-901630), both from Austria, courtesy of © W. Kainz, AGES Linz, Austria.

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SUMMARY REPORT OF THE MEETING

Introduction

The Fourth Meeting of the Working Group on Medicinal and Aromatic Plants (MAPs) of the European Cooperative Programme for Plant Genetic Resources (ECPGR) was held on 29 September - 1 October 2009 in Kuşadası, Turkey.

The meeting was attended by 23 participants from ECPGR member countries, plus 7 observers and 1 representative from the ECPGR Secretariat (see Appendix V, pp. 28-30).

Welcoming addresses and opening remarks

Ana Maria Barata, Chair of the Working Group, welcomed all participants and thanked the local organizers, our partners from the Aegean Agricultural Research Institute (AARI) for choosing such a beautiful place to hold the meeting.

Dr Vehbi Eser, Head of the Field Crops Department, General Directorate of Agricultural Research, also welcomed the members of the Working Group. He said that plant genetic resources (PGR) were given great attention in Turkey and that a wide range of related activities were being carried out to ensure their protection, conservation and sustainable use. Dr Eser informed the meeting that a new Gene Bank was being constructed in Ankara and was planned to open in December. This structure will be able to hold 250 000 samples. The General Directorate is the coordinating body for all PGR activities in Turkey, including the implementation of international agreements. He concluded by wishing the participants a successful meeting and an enjoyable stay in the fantastic environment of Kuşadası.

Dr Ali Osman Sari, Director, AARI, then addressed the Group with the following opening speech:

*Distinguished Members of the Medicinal and Aromatic Plants Working Group,
Dear Guests,*

I would like to welcome you to Turkey. We, as the leading agricultural research institute of Turkey on plant genetic resources, are pleased to organize such an important meeting related to an important crop group, here in Turkey where you can see the great crop and cultural diversity. Among main efforts of our institute for improvement of high-yielding, high quality, disease-resistant cultivars and other agronomical researches, our most important mission is the identification and conservation of plant diversity in Turkey.

The institute's history and the plant genetic resources activities history are almost overlapped. The institute is mandated to carry the survey, collection, conservation and evaluation of cultivated species and their wild relatives and also economically important wild plant species. Since then the plant genetic resources activities are continuously conducted and AARI has responsibility for the national coordination of the Plant Genetic Resources and Plant Diversity Programme.

AARI is one of the pioneering institutes on plant genetic resources conservation in Europe. Our National Programme is also one of the pioneers on in situ conservation, both for wild species and on farm.

Plant genetic resources activities and other research activities will be presented to you so I will not much go to the detail.

AARI is always open to collaboration on national, regional and international level. Since the beginning of the establishment we collaborate with Bioversity and our staff participates in several

ECPGR Working Groups and Networks. We hope for more collaboration on plant genetic resources on the implementation of the Global Plan of Action, not only for Turkey but also for Europe.

I wish you a successful meeting and pleasant stay in Turkey. Enjoy your stay in Turkey and enjoy Kuşadası.

MAP meeting introduction

Ana Maria Barata suggested a slight amendment to the agenda, so as to begin with a self-introduction by all the participants, especially for the benefit of the new members: Paschalina Chatzopoulou, Greece (replacing Theodoros Koutsos); Ildikó Novák, Hungary (replacing Jenő Bernáth); Magnus Göransson, Iceland; Nativ Dudai, Israel (replacing Eli Putievsky); David Draper Munt, Spain (replacing Federico Varela); and Tatjana Platonova, Ukraine (new member country).

She introduced Elinor Lipman as the representative of the ECPGR Secretariat.

A.M. Barata then reviewed the agenda and explained that the section for country reports had been shortened in order to free more time for discussion of other subjects, and that a questionnaire composed of two documents had been sent to the Working Group (WG) members prior to the meeting in order to produce a global report which can show the state of the art of MAP-related activities in each WG member country and for the WG in general.

The agenda was then approved without further modifications (see Appendix IV, pp. 26-27).

ECPGR and AEGIS update

Elinor Lipman started with an overview of the ECPGR programme, including a summary of the decisions made at the Eleventh Steering Committee (SC) Meeting in September 2008 (topic to be developed by Å. Asdal, see below, pp. 9-10). Items particularly relevant for the MAP WG are summarized below. General information can be found on the ECPGR Web site (<http://www.ecpgr.cgiar.org/Index.htm>).

The MAP WG belongs to the Sugar, Starch and Fibre Crops Network; the current interim Chair of the MAP WG is a member of the Network Coordinating Group (NCG). The budget allocation for the Network in Phase VIII amounts to 118 100 €, including 48 885 € for the MAP WG.

Activities planned for Phase VIII include the present Fourth Meeting of the MAP WG and a meeting of oregano experts, the Oregano project (see below, pp. 11-12) and an ad hoc meeting of *Gentiana lutea* experts to take place in 2012.

The Report of the Second and Third Meetings of the MAP WG has been published; the WG was reminded that according to the new publication strategy approved by the SC, reports would now be produced only electronically and would not include any papers. However members are welcome to provide their contributions (papers or Powerpoint presentations) for uploading onto the MAP WG's Web page. The WG members are also encouraged to monitor and update the Web site and provide any relevant information to be uploaded.

Information was then given on the initiative for "A European Genebank Integrated System" (AEGIS).

The reference document for AEGIS, "Strategic Framework – Policy Guide" is available on the AEGIS Web site (http://www.ecpgr.cgiar.org/AEGIS/AEGIS_home.htm).

The establishment of a European Collection has received full agreement and the Memorandum of Understanding has recently entered into force, upon the signature of the tenth country (23 July 2009).

The process for the creation of the European Collection was briefly described. Four crops (*Allium*, *Avena*, *Brassica* and *Prunus*) were used to lead the way as models in its

establishment. The scope of the collection includes MAP species, and the WG members were invited to think about their possible contribution to the establishment of AEGIS.

A project proposal is in preparation for the implementation of AEGIS under EU Framework Programme 7, Work Programme 2010 – Research Infrastructures. This project, “EUROGENEBANK”, is coordinated by the ECPGR Secretariat.

The Powerpoint presentation is available on the MAP WG’s Web page (http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

Discussion

Questions were asked about the respective budgets allocated for the present meeting, the ad hoc Oregano meeting, the project on “Conservation and characterization of Oregano (*Origanum vulgare* L.) wild populations in Europe” and the ad hoc *Gentiana lutea* experts meeting. It was explained that the ad hoc Oregano meeting was no longer necessary because the Chair, Vice-Chair and Coordinator of the project had met in Slovenia on the occasion of the Fourth International Symposium on Breeding Research on Medicinal and Aromatic Plants (ISBMAP) in June 2009 and were then able to plan sufficiently for the next steps of the project. Therefore the money originally allocated to this ad hoc Oregano meeting was used to increase the Fourth MAP Meeting duration by one day, and to invite Johannes Novak, who would be involved in the Oregano project for the molecular and chemical evaluation, to attend.

Regarding the *Gentiana lutea* ad hoc meeting, which was not considered useful by the WG members, it was decided that the money would be reallocated to the Oregano project to allow the participation of more partners.

The updated budget is available on the Sugar, Starch and Fibre Crops Network’s Web page (http://www.ecpgr.cgiar.org/Networks/Indus_crops/indus_crops.htm).

Achieved and expected results: 2004–2008

Ana Maria Barata summarized the activities carried out by the WG during the period 2004-2008, as the starting point for this meeting.

She reminded the Group that the main objective of this WG is to develop conservation strategies in Europe, by:

- Inventory of MAP genetic resources
- Conservation
- Characterization/Evaluation, with development of crop-specific descriptors
- Documentation of *ex situ* collections and *in situ* populations.

The WG has successfully completed the majority of the planned activities:

- WG Meetings and Reports:
 - 2nd meeting, December 2004 in Strumica, Macedonia FYR
 - 3rd meeting, June 2007 in Olomouc, Czech Republic
- Selection of a priority list of MAP species
- Development of a proposal for a MAP descriptor list, with the following categories: Passport; Management; Environment and Site¹

¹ A revised version was uploaded on the MAP WG’s Web page in May 2010

- Preparation of crop-specific Characterization and Evaluation descriptors for the ten priority species.

The main purpose of creating such a list of characterization descriptors for the priority species is to be able to: characterize *in situ* populations and/or genebank accessions *ex situ* for their taxonomic and chemotaxonomic status; define morphological, chemical and genetic characteristics of genebank accessions for selection, breeding work and cultivar development; and find potential traits for the food industry and for trade.

This task is still under way and it should be completed by the end of 2009.

- Also during this period the Oregano project for “Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe” was approved, during the last ECPGR Steering Committee meeting (September 2008).

Review on draft crop-specific descriptors: tasks agreed and progress made

Ana Maria Barata reviewed the status of the ten priority descriptor lists (coordinator and revision status).

Coordinator	Species	Bioversity revisions		
		none	one	two
Ana Maria Barata	<i>Mentha piperita</i> and <i>M.spicata</i>			X
Ana Maria Barata	<i>Thymus vulgaris</i> and <i>T. serpyllum</i>			X
Ieva Žukauska	<i>Origanum</i> spp.		X	
Karel Dušek	<i>Carum carvi</i>		X	
Ali Osman Sari	<i>Melissa officinalis</i>		X	
Dea Baričević	<i>Achillea millefolium</i> agg.		X	
Ali Osman Sari	<i>Salvia officinalis</i>	X		
Dea Baričević	<i>Artemisia absinthium</i>	X		
Dea Baričević	<i>Gentiana lutea</i>		X	
Jolita Radušienė	<i>Hypericum perforatum</i>		X	

In order to finalize this task, by the end of 2009, for the **ten target species** it was decided that the descriptors should all follow the same outline.

So considering that there are some finalized “*Mentha* and *Thymus*” descriptors, they will serve as an example for the others.

After harmonizing, they will be sent by A.M. Barata to the responsible persons who will be asked to revise their drafts and finalize them in accordance with the examples. This task should be completed **3 weeks after receiving the pattern**.

The final version of the ten target species descriptors will then be uploaded on the MAP WG’s page, as a result of the WG.

Discussion

Gjoshe Stefkov informed the meeting that the Working Group on Medicinal and Aromatic Plants of the South East European Development Network on Plant Genetic Resources (SEEDNet) had also developed some crop-specific descriptors (*Sideritis scardica*, *Helichrysum*

plicatum, *Arctostaphylos uva-ursi* and *Satureja montana*) and he confirmed that the descriptors could be made available to this WG.

Karel Dušek (Crop Research Institute, Czech Republic) mentioned that other descriptors have also been developed by his institute and would only need to be translated from Czech to English to be usable by the WG: *Althea* spp., *Anethum graveolens*, *Calendula officinalis*, *Foeniculum vulgare*, *Lavandula* spp., *Ocimum* spp. and *Pimpinella* spp.

K. Dušek then gave an additional presentation, including an example of characterization of *Anethum graveolens*, using the descriptors that he had developed for this species, based on the International Union for the Protection of New Varieties of Plants (UPOV) descriptors.

The Powerpoint presentation is available on the MAP WG's Web page (http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

A.M. Barata stated that descriptors for *Foeniculum vulgare* Miller have been developed and tested in the Portuguese Genebank; these descriptors can also be made available to the WG.

So it was agreed that descriptors developed by the members of this WG could be made available to the Group. This will be followed up by A.M. Barata and Å. Asdal with the "Descriptors' donors".

Summary of country reports

Åsmund Asdal reminded the Group of the procedure adopted for this meeting for the presentation of country reports: individual presentations would be replaced by a synthesis of the information provided by members, derived from answers to the questionnaire about the status of MAP collections which had been sent to the WG members before the meeting. This approach is also being used by other ECPGR WGs.

Replies to the questionnaire from 19 countries (Austria, Czech Republic, Estonia, Finland, Iceland, Hungary, Israel, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden and Turkey) and from one regional organization: NordGen, representing the five Nordic countries, were available ahead of the meeting. A summary of data from these reports was presented.

The countries that had not reported before the meeting were encouraged to do so **before 23 October 2009**.

Initially Å. Asdal mentioned that the data were sometimes difficult to interpret as there was some inconsistency in the reporting, often due to lack of clear definitions. These inconsistencies comprise:

- Definitions of MAP species differ, so that e.g. vegetables, fruits, fibre plants and ornamental plants have been included in reports for MAP species from some countries.
- Many countries, but not all, have included all conserved plants, including plants maintained mainly for display/information purposes. The Group discussed whether collections of one or two plant of a species in a country should be considered as conservation of genetic resources or not.

The country reports gave comprehensive information about collections in all reporting countries, including which species and subspecies are conserved and also how many accessions are conserved in each collection.

The following figures have been adjusted according to country reports made available after the meeting (from Albania, Armenia, Azerbaijan, Croatia, Greece, Slovakia and Switzerland) and to the results of the screening conducted after the meeting by a group of specialists led by Stephen L. Jury, who considered all species that have been reported and deleted from the MAP country reports the species that are assumed to fit more suitably into

other ECPGR WGs. A more consensus-based decision on which species should be considered as MAPs might be discussed in the next WG meeting.

The number of defined MAP species collections that are conserved in the countries totals 2386. These collections can be called “national species collections”, meaning that a number of accessions of one species in one country is defined as one such collection (e.g. collections of *O. vulgare* in 13 countries will in these terms amount to 13 such collections).

Based on the compilation of data provided, some key figures of MAP collections are as follows:

Total number of accessions reported	19 680
Number of accessions from domestic flora	14 702
Number of <i>ex situ</i> seed accessions	approximately 15 000
Number of <i>ex situ</i> field accessions	approximately 5 400
Number of reported <i>in situ</i> accessions	249

Summaries of the reports provided interesting data about the size of the national species collections. The size of the collections, i.e. the number of accessions/species, shows that many of the collections contain less than five accessions. Only 603 out of the total number of 2386 collections have five or more accessions.

No. of accessions	No. of collections
≥ 5 accessions	603
≥ 10	352
≥ 50	75
≥ 100	32

The ten largest MAP collections reported are listed below:

Country	Species	No. of accessions
Hungary	<i>Papaver somniferum</i>	828
Israel	<i>Sinapis alba</i>	363
Spain	<i>Rosmarinus officinalis</i>	335
Turkey	<i>Salvia</i> spp.	332
Spain	<i>Lavandula latifolia</i>	277
Turkey	<i>Origanum</i> spp.	219
Turkey	<i>Sideritis</i> spp.	206
Albania	<i>Salvia officinalis</i>	201
Austria	<i>Papaver somniferum</i>	196
Portugal	<i>Humulus lupulus</i>	162

For each of the ten priority species, the following details were presented: Number of countries holding collections, Total number of accessions, Number of indigenous accessions, Number of accessions conserved *ex situ* (seed bank/field), Number of accessions *in situ* (see below).

	Number of countries holding collections	Number of accessions				
		Total	Indigenous	Conserved <i>ex situ</i>		<i>In situ</i>
				Seed	Field	
<i>Achillea millefolium</i>	14	185	159	111	55	6
<i>Artemisia absinthum</i>	13	108	91	44	67	5
<i>Carum carvi</i>	15	622	449	441	243	0
<i>Gentiana lutea</i> and <i>G. sp.</i>	8	61	50	49	8	0
<i>Hypericum perforatum</i> , incl. <i>H. sp.</i>	15	493	390	425	99	6
<i>Melissa officinalis</i> , incl. <i>Melissa sp.</i>	16	166	108	127	43	0
<i>Mentha spp.</i> , incl. 13 <i>M. species</i> and hybrids	18	558	480	329	345	0
<i>Origanum vulgare</i> , incl. <i>O. sp.</i> and <i>O. v. subsp.</i>	19	745	568	463	298	5
<i>Salvia officinalis</i> incl. <i>S. sp.</i> and <i>S. subsp.</i>	17	805	482	650	154	0
<i>Thymus spp.</i>	21	881	650	580	278	36

The figures also showed that *in situ* conservation of MAPs is practised to a limited extent in most countries. Only Estonia, Hungary, Poland and Slovenia reported activities within *in situ* conservation of MAPs. The species involved were indicated.

G. Stefkov informed the Group about a regional SEEDNnet training course on "In situ and on-farm conservation of plant genetic resources for food and agriculture" held 21-24 September 2009 at the Suceava Genebank, Romania. The background documents related to this course are available on the Web site of Suceava Genebank (www.svgenebank.ro).

The countries provided data about characterization and evaluation of conserved accessions. Updated reports show that morphological characterization has been carried out in 3461 of the total of 19 680 accessions, chemical evaluation has been carried out in 1739 accessions and molecular investigations have been carried out in only 383 accessions.

From the 14 030 accessions which are documented in national databases, 4300 MAP accessions have been uploaded in the European Plant Genetic Resources Catalogue (also known as European Internet Search Catalogue, EURISCO). Evaluation data have been uploaded in national databases only in Hungary, Slovakia and Latvia.

Regarding distribution of material from the collections to users, 1492 material samples have been distributed for domestic use and 667 samples of propagation material have been distributed to other countries. The material has been sent from 483 species collections. The WG considers this as evidence of the high value of the conserved material.

Other topics included in the questionnaire were both political and technical:

- National organization of MAP genetic resources
- Relation to a national PGR programme
- Collecting activities since 2007

- Number of plants used for evaluation and characterization
- Priorities for coming years
- Conditions and protocols for genebank management
- Safety-duplication.

Discussion

All WG members agreed that their reports could be submitted without any editing to other members in the Group, which will be done **after 23 October 2009** when missing country reports have been received.

The WG discussed some important findings from the reports. One important issue is the low level of safety-duplication of the collections. It is also unsatisfactory that only about 30% of passport data from national databases are included in EURISCO.

The National Plant Genetic Resource Programme of Turkey

Ayfer Tan, Head of the Plant Genetic Resources Department, AARI, gave an exhaustive presentation of the PGR history and current situation in Turkey. She described activities carried out in the areas of *in situ* and *ex situ* conservation, documentation, utilization, training and legislation, regional and international collaboration.

The Powerpoint presentation is available on the MAP WG's Web page (http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

Documentation of *in situ* populations

A.M. Barata described several initiatives that are being developed regarding the possible documentation of *in situ* populations, and which may be a support to this WG: a database on *in situ* populations of crop wild relatives, should it be developed through the EU-funded project or other means, could be used in the future by the MAP WG to document MAP species preserved in *in situ* conditions.

MEDPLANT, a multi-user relational database that was developed in Slovenia for monitoring, characterization and utilization of MAPs, cannot be made available to the MAP WG, because it would be necessary to obtain funds to adapt it for the use of other countries.

The AEGRO project "An Integrated European *In Situ* Management Work Plan: Implementing Genetic Reserves and On Farm Concepts" was also mentioned, as well as the new project proposal to the European Commission Seventh Framework Programme (EC FP7) "Characterization of biodiversity resources for crop wild relatives to improve crops by breeding". In this latter project there is an intention to develop *in situ* inventories for vegetables, cereals, legumes and forages, and the possibility of including MAP species was discussed.

Also, the ECPGR Documentation and Information Network wishes to build the *in situ* component of EURISCO in the future.

Discussion

The question was raised whether the MAP WG should make a statement, and it was decided that the MAP WG wishes to let the Wild Species Conservation in Genetic Reserves Working Group know, in relation to the FP7 European project, that if possible the MAP WG would like to participate. Preferably a person from the MAP WG should be invited to participate in this project. If that is not possible, the MAP WG would want to be given the opportunity to influence the project plans and be able to use the tools developed in the framework of the project.

Documentation of *ex situ* collections

On behalf of Lorenzo Maggioni and Sónia Dias, E. Lipman presented the current “European PGR Information Landscape”, with the central role of the European Internet Search Catalogue (EURISCO). This Web-based catalogue provides information on *ex situ* collections maintained in Europe, currently containing passport data for more than 1 million samples from 39 countries.

The *in situ* component of EURISCO is yet to be implemented, following the model of the *ex situ* component described below.

EURISCO is based on a European network of *ex situ* National Inventories. The National Focal Points in charge of these National Inventories gather data from national collections, and ensure their quality, accuracy and compliance to the standardized exchange format (EURISCO descriptors). EURISCO is developed and maintained by Bioversity International on behalf of the ECPGR Secretariat.

European Central Crop Databases (ECCDBs) are expected to derive a core set of data from EURISCO and expand beyond passport data, including characterization and evaluation (C&E) traits as well as analysing and displaying the data according to specific user needs, or they can develop into “Crop Portals”, providing more than just PGR data (genetics, agronomy, pathology, etc.). Recently, owing to the limited success of C&E data provision by ECCDBs, ECPGR is planning to promote inclusion of “un-standardized” C&E data into EURISCO itself.

At the global level, as a service to the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), accessions that are part of the Multi Lateral System (MLS) can be registered in EURISCO. Currently more than 197 000 accessions are thus registered.

The integration of all PGR information providers into a global information system was illustrated. An essential component of this global system foreseen by the ITPGRFA is the provision of an accession level information system, being developed at Bioversity in collaboration with FAO as part of the “GIGA project” (Global Information on Germplasm Accessions).

The Powerpoint presentation is available on the MAP WG’s Web page (http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

Discussion

As already highlighted in the synthesis of the country reports, uploading of data to EURISCO is far from satisfactory and needs to be improved. The data providers should thus forward their passport data, following the EURISCO descriptors format, to their respective National Focal Point (NFP). The list of NFPs is available on the EURISCO Web page (http://eurisco.ecpgr.org/about/national_focal_points.php) and a print-out of the list was circulated to allow all attending members to check the contact details of their NFP.

WG members were encouraged to visit the EURISCO Web site (<http://eurisco.ecpgr.org>) regularly and to contact their National Focal Point for any further information.

Report from the Eleventh Steering Committee Meeting (September 2008)

Åsmund Asdal presented relevant priorities and statements from the Eleventh Steering Committee (SC) Meeting which took place in Sarajevo, Bosnia and Herzegovina in September 2008. It is essential that policies and decisions given by the SC are followed up by

Networks and Working Groups, and the question how MAP WG activities could be adapted to SC decisions was discussed.

The SC outlined the following priorities for the current ECPGR Phase VIII (2009-2013):

- Task sharing and capacity building (top priority)
- Characterization and evaluation
- *In situ* and on-farm conservation and management
- Documentation and information.

The SC also accepted workplans presented by the Networks, and stated that the funding of activities will continue on the same level as in the previous Phase VII. This implies also that approximately 75% of allocated funds will cover meeting expenses and 25% will be used for WG activities.

The SC has also adopted a new strategy for allocating funds for projects and activities, which implies a call for project proposals from Working Groups that comply with ECPGR strategies and objectives. A proposal for a European *Origanum* project was approved for funding by the SC. However the funds allocated for the project implementation were only 21 425 € and the project plan has had to be adjusted according to available funds.

Discussion

The task-sharing initiative which currently has the highest priority in ECPGR is the AEGIS project. The WG discussed how their activities could contribute to the overall implementation of the AEGIS concept for MAP species. The WG believes that MAP *ex situ* accessions can be offered to be designated as European Collection accessions. Further the WG agreed that the AEGIS quality standards for conservation of accessions in *ex situ* genebanks will be adopted as far as possible in the national collections and genebanks.

The WG would be involved in identifying Most Appropriate Accessions (MAAs) for MAP species, when the procedures for making such choices are defined. Experiences from other species under the responsibility of other ECPGR WGs will certainly be valuable for such an exercise in MAPs.

The *Origanum* project will provide data that could be used in defining *Origanum* accessions as European accessions of this species.

The Working Group also believes that the *Origanum* project will contribute significantly towards the second SC priority, especially when accessions of *Origanum* are characterized and evaluated.

Further, MAP species are especially relevant for *in situ* conservation, as most of the prioritized species are present in the wild flora of European countries.

The WG discussed how data about MAP accessions can be included in databases and especially how they will be uploaded in EURISCO.

The WG discussed and agreed that the relevant criteria for choosing species for inclusion into AEGIS could be appropriate knowledge about the plant genetic material and the accessions of the species, e.g. documentation about landraces and varieties. Further it is relevant to consider whether accessions in many countries are conserved and available, in order to cover genetic diversity, properties and adaptations from a wider region.

The WG members discussed the possibilities for extended funding of e.g. *Origanum* activities through the Bioversity/ECPGR call for proposals for Competitive AEGIS Grants. Funding could be provided for projects that contribute to the implementation of AEGIS and the deadline for applications is 18 October 2009.

The members were encouraged to consider submitting an application for funding of national activities related to the *Origanum* project.

The *Origanum* project: “Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe”

The project “Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe” was submitted to the ECPGR Steering Committee in June 2008 and was approved for funding at the Eleventh SC Meeting in September 2008.

However, the funds available for the project are limited to 21 425 €.

The Group discussed options for the implementation of the project with the reduced budget. Dea Baričević presented a revised project plan to the Group, in which the analysis of accessions collected in the framework of the project could be carried out at the Institute for Applied Botany and Pharmacognosy, University of Veterinary Medicine in Vienna (see Appendix I, pp. 19-22).

The number of partners was discussed, and the WG members were given the opportunity to express their commitment and willingness to participate. It was concluded that the project will have 19 partner countries, and will also include the University of Veterinary Medicine in Vienna as the subcontractor for analyses.

The partner countries will be Slovenia, Portugal, Albania, Czech Republic, Bulgaria, Finland, Italy, Israel, Latvia, Macedonia FYR, Norway, Slovakia, Turkey, Croatia, Serbia, Spain, Greece, Hungary and Lithuania.

Dea Baričević (Agronomy Department - Biotechnical Faculty, University of Ljubljana) is the project manager. The partners who have not already done so, should send **before 23 October 2009** a document about the status of *Origanum* in their countries, containing information about subspecies present in the wild flora, distribution etc. to the project manager.

The basic activity of the project is that the country partners will each collect material from three populations of *Origanum* in their country, and the material will be analysed for genetic and chemical variability at the University in Vienna.

The partners will also collect and prepare herbarium specimens of plants from the populations. The passport data of the samples and populations should be documented by partners. The project will focus on *O. vulgare*, but when this species is not present in the country, the partner should decide which other *Origanum* species to include.

The partners are also encouraged, if possible, to collect seeds for genebank conservation and to characterize the populations, using the descriptors for *Origanum* that have been developed by the MAP WG.

Project manager Dea Baričević presented details and guidelines for the project work. During the meeting the guidelines were updated to satisfy the needs for clarification among partners. A final set of detailed guidelines for collecting, preparation and shipment of material was distributed to the partners and is attached to this report (Appendix II, pp. 23-24).

The project will be carried out in the period from **1 June 2010 to 31 March 2011**. Partners should provide material for analyses before 1 October 2010. It was stressed that it is essential that the project will be carried out in a professional and efficient way, which may be difficult in a project with so many partners. Therefore it was decided that only partners who provide material before the deadline will be part of the project and receive funds from ECPGR.

During the discussion the member from Hungary, Ildikó Novák offered as an in-kind contribution that the Department of Medicinal and Aromatic Plants at Corvinus University of Budapest would be able to extend the chemical analyses of the accessions using the same material as in Vienna; the same offer was made by G. Stefkov (Macedonia FYR). The Universities in Vienna, Budapest and Skopje will coordinate the use of the material.

It was stressed that all partners should be fully informed about which analyses will be carried out and the results.

Regarding scientific publications of the results, Johannes Novak, who will be responsible for the analyses at the Institute for Applied Botany and Pharmacognosy at the University of Veterinary Medicine in Vienna, assured the Group that all partners will be considered as authors.

He then presented details about the methods that will be used. This included techniques for microsatellite analysis and background techniques for High Resolution Melt analysis (HRM) and some results from previous *Origanum* sp. investigations.

Examples from his presentation were:

- DNA-based identification of medicinal plants in *Verbena* species – melting curves distinguish the species
- Population structures of genebank accessions of *Salvia*²
- Natural distribution of several oregano species
- Marjoram versus Oregano: complex evolutionary relationships in the section Majorana.

An edited version of the presentation was provided by J. Novak after the meeting and uploaded on the MAP WG's Web page (http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

Priorities for projects to be undertaken in the coming years in the member countries

As mentioned already, the process of preparing country reports for this meeting meant that countries, in advance and before the meeting, had submitted reports and responded to a questionnaire regarding conservation and use of PGR in MAP species in the various countries. A summary of the reports was presented on the first day of the meeting.

Under this Agenda point the countries were given the opportunity to comment and elaborate further on their priorities for the coming years regarding activities and projects in MAP species.

Representatives from the 19 countries which had submitted responses to the questionnaire commented on the basis of what had been reported previously, and the countries which had not responded to the questionnaire used the opportunity to inform the Group briefly about their plans and priorities.

The information from individual countries was discussed and commented on, in cases where the Group was considering options for cooperation and information exchange. These are:

- Representatives from Greece, Slovenia and Turkey reminded the Group of the fact that many MAP species are threatened in the wild flora and red-listed, and that it is important to address this fact in future work. The Group discussed the possibilities of making a European Red List for MAP species, and decided to carry out such an exercise, either alone as a Working Group, or if possible, integrated in an ongoing initiative for making a European Red List for crop wild relatives (CWR).
- The need for descriptors for other MAP species was discussed at several agenda points in the meeting. During the presentation of future work, several countries announced that descriptors for additional species had already been developed, or will be developed in the next few years. The representatives of the Czech Republic, Macedonia FYR (speaking on

² See also: Mader E, Lohwasser U, Börner A, Novak J. 2010. Population structures of genebank accessions of *Salvia officinalis* L. (Lamiaceae) revealed by high resolution melting analysis. *Biochemical Systematics and Ecology* 38(2):178-186 (doi.org/10.1016/j.bse.2010.01.001).

behalf of the SEEDNet countries), Portugal and the Nordic/Baltic countries already have descriptors for new species that could be offered to other countries (*see also section on descriptors above, pp. 4-5*).

- Bulgaria, Lithuania and Portugal reported on activities regarding *in situ* conservation of MAP species. The WG believes that *in situ* conservation of MAPs would need increased focus in the coming years and experiences made in these countries will be available for other partners. Macedonia FYR also reported on national legislation implemented to prevent MAP species from over-exploitation and eradication.
- Bulgaria, Portugal, Spain and Turkey reported on initial steps to conserve overall MAP species *in vitro* or by cryopreservation. The country reports have revealed that the situation regarding safety-duplication of MAP collections is insufficient and the WG believes that *in vitro* and cryopreservation could be used to improve this situation. Experiences from these countries are available for other partners.
- Projects with the aim of propagating rare and threatened species (not exclusively traditional MAP species) by micropropagation methods were reported from Bulgaria, Greece, Norway, Turkey and the United Kingdom. The Group believes that these methods will be useful for conservation and reintroduction of species into former habitats, and also for commercial production of plants and MAP products.

In addition to these general and “cross-species”/“multicrop” issues, the countries reported more specifically about their plans for collecting missions, characterization and evaluation projects and which species they intend to focus on. Details from these presentations and following discussions are not reported in the meeting report, but all documents submitted by the WG members will be circulated to all members after the meeting.

Definition of tasks, responsibilities and time frame plans for Phase VIII of ECPGR

A.M. Barata summarized the tasks and responsibilities for the next period:

- The **characterization and evaluation descriptors** of the ten target species will be finalized **by the end of 2009**, following what was agreed during this meeting.
Additional species descriptors developed in member countries will be made available to the other WG members, through the MAP WG Web page.
- The **documentation of *ex situ* collections** will follow EURISCO. The data providers should thus organize and forward their passport data, following the EURISCO descriptors format, to their respective National Focal Point (NFP). The information needs to be continuously updated, therefore this is a **permanently ongoing activity**.
- The **documentation of *in situ* populations** will be done by each member country, continuing to use their own tools until a common database is developed either within the framework of the *in situ* FP7 project or of the EURISCO *in situ* component.

- The **Oregano project** will be carried out in the period from **1 June 2010 to 31 March 2011**. **Partners should provide material for analyses before 1 October 2010** (see Appendix I, pp. 19-22).

Guidelines for collecting, preparation and shipment of material were distributed to the partners during the meeting (see Appendix II, pp. 23-24).

Results of the project are to be presented, in a report format, before the next mid-term meeting of the ECPGR SC planned for late 2011.

- **MAP species lists**

Members of the Group thought that priority lists for MAP species would be important to help countries justify the choice of species for national projects and to show the existence of some common regional strategies and priorities.

The WG decided that the starting point would be the first list produced by the MAP WG after its first meeting (September 2002), which had served as the basis for the development of the "ten priority species/genera list".

This list will be circulated by Å. Asdal **before the end of October 2009** to the WG members, allowing them to add relevant MAP species. The members will also be asked to indicate which species they consider as priorities in their respective countries. Answers should be sent to Å. Asdal **before the end of November 2009**.

The result of this exercise will be a new WG priority list for MAP species in Europe.

The ten target species will remain as highest priority but this new list will show priorities for a broader range of species.

Secondly the updated MAP list will be the basis for the development of a document showing the level of threat and the Red List status for MAP species in Europe. Ali Osman Sari will be responsible for compiling information about Red List status provided by WG members.

The WG is aware that a project on "Novel characterization of crop wild relatives and landraces resources as a basis for improved crop breeding (PGR Secure)", coordinated by the University of Birmingham, is being prepared for submission to FP7, and if possible the development of the MAP list will be coordinated with this initiative.

Karel Dušek will prepare **by end April 2010** a protocol with basic procedures for the regeneration and multiplication of the MAP accessions; it will be uploaded on the MAP WG page.³

Conclusion

Discussion and approval of the report

The draft report was distributed to all participants at the closing plenary session, and was approved with minor amendments.

³ See: Dušek K, Krieg P, Dušková E. 2010. Methodology for using insect pollinators in heterogamous vegetable species, medicinal, aromatic and culinary plants grown in technical isolation. Crop Research Institute, Prague. (http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

Selection of Chair and Vice-Chair

The interim periods for the Chair and Vice-Chair having come to an end with this present meeting, it was time to select the Chair for the following period, until the next election. Dea Baričević, in her capacity of former Chair of the WG, wished to propose that Ana Maria Barata continue in her functions of Chair of the Working Group, and the proposal was agreed by all WG members. Åsmund Asdal also accepted to continue his role of Vice-Chair to support the newly elected Chair, and the Working Group congratulated the new Chair and Vice-Chair with applause.

Closing remarks

Ana Maria Barata thanked all participants in the meeting for their valuable contributions and wished the Group a successful continuation of their activities. She also extended warm thanks to the local organizers for the excellent conditions provided for the meeting in the beautiful setting of Kuşadası, and the very interesting visits to the site of Ephesus and to the Aegean Agricultural Research Institute. Ali Osman Sari returned the thanks to the Chair and to the whole Group, saying that he was very proud to have hosted the meeting and was looking forward to constructive collaboration.

APPENDICES

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Appendix I. Project on “Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe” – Final version, May 2010

Working Group	Medicinal and Aromatic Plants
Project Coordinator (Name/Institution/Partner)	Dea Baričević University of Ljubljana, Biotechnical Faculty Slovenia

In June 2008, the ECPGR Working Group on Medicinal and Aromatic Plants (MAP WG) submitted a project proposal entitled “Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe” to the ECPGR Steering Committee for approval. During the 11th Steering Committee meeting (2 September 2008) the proposal was approved but the funds allocated for the project implementation were only 21 425 €. Therefore the MAP WG decided to adapt the project objectives, duration and workplan according to the available budget.

The original background information on the oregano populations’ distribution in project members’ countries remains unchanged. The specific project activities, duration, workplan and budget distribution among the partners, adopted by the Fourth Meeting of the MAP WG (2 October 2009), are presented below.

I. Description of the Project’s activities

Project title (Short description of the project goal)	
Conservation and characterization of oregano (<i>Origanum vulgare</i> L.) wild populations in Europe	
Project duration Starting and ending dates (maximum three years)	1 June 2010 to 1 March 2011

Participants
ECPGR MAP WG members – partners in the project (Names/Institutions/partners)

- Slovenia:** Dea Baričević, Agronomy Department - Biotechnical Faculty, University of Ljubljana, Jamnikarjeva 101, 1000 Ljubljana
- Portugal:** Ana Maria Barata da Silva, Banco Português de Germoplasma Vegetal, Instituto Nacional de Recursos Biologicos, Quinta de S. José - S. Pedro de Merelim, 4700, Braga
- Albania:** Alban Ibraliu, Agricultural University of Tirana, Faculty of Agriculture, Department of Crop Production, Kamez, Tirane
- Czech Republic:** Karel Dušek, Department of Vegetables and Special Crops, Crop Research Institute (CRI), Šlechtitelu 11, 783 71, Olomouc – Holice
- Bulgaria:** Kana Bojcheva Varbanova, Institute for Plant Genetic Resources (IPGR), 4122 Sadovo, Plovdiv

6. **Finland:** Bertalan Galambosi, Agrifood Research Finland – Mikkeli, Plant Production Research, 50600, Mikkeli
7. **Italy:** Carla Vender, Unità di ricerca per il Monitoraggio e la Pianificazione forestale Consiglio per la Ricerca e la Sperimentazione in Agricoltura (CRA), Piazza Nicolini 6, 38100 Villazzano-Trento
8. **Israel:** Nativ Dudai, Agricultural Research Organisation, Newe Ya'ar Research Center, PO Box 1021, 30095 Ramat Yishaiy
9. **Latvia:** Ieva Žukauska, Department of Horticulture, Faculty of Agriculture, Latvia University of Agriculture, Liela Str. 2, 3001 Jelgava
10. **Macedonia FYR:** Gjoshe Stefkov, Faculty for Pharmacy, Vodnjanska 17, PO Box 36, 1000 Skopje
11. **Norway:** Åsmund Asdal, Norwegian Genetic Resources Centre, PO Box 115, 431 Ås
12. **Slovakia:** Iveta Cicová, Plant Production Research Centre Piestany, Research Institute of Plant Production (RIPP), Bratislavská cesta 122, 92168 Piešťany
13. **Turkey:** Ali Osman Sari, Aegean Agricultural Research Institute (AARI), PO Box 9, Menemen, 35661 Izmir
14. **Croatia:** Zlatko Satovic, Faculty of Agriculture, University of Zagreb, Svetosimunska 25, 10000 Zagreb
15. **Serbia:** Zora Dajic Stevanovic, Faculty of Agriculture, University of Belgrade, Nemanjina 6, 11080 Zemun - Belgrade
16. **Spain:** David Draper Munt, Dpto. de Biología Vegetal, Escuela Técnica Superior de Ingenieros Agrónomos, Universidad Politécnica de Madrid, Avda. Complutense s/n, 28040 Madrid
17. **Greece:** Paschalina Chatzopoulou, Medicinal and Aromatic Plants Department, Agricultural Research Center of Northern Greece (NAGREF), PO Box 60458, 57001 Thermi Thessaloniki
18. **Hungary:** Krisztina Szabó, Department of Medicinal and Aromatic Plants, Corvinus University of Budapest, Villányi str 29-35, 1118 Budapest
19. **Lithuania:** Jolita Radušienė, Institute of Botany, Zaliuju Ezeru 49, 08406 Vilnius

Subcontracted research institute to perform molecular and chemical analyses

Austria: Johannes Novak, Institute for Applied Botany and Pharmacognosy, University of Veterinary Medicine Veterinärplatz 1, A-1210 Vienna

Project goal

(Clearly defined goal in 2-3 sentences)

The main objectives of the project are to make an inventory of, and to survey native populations of wild oregano (*Origanum vulgare* L.), to characterize their genetic and chemical variability, and to find out the distribution pattern of taxonomically defined populations in European countries.

The data on characterization of plant material will be documented and will be available for exchange between all partners. This project aims at providing preliminary results and the background information for the establishment of future regional collection(s) (according to the AEGIS concept) of *Origanum vulgare* L. in Europe.

Project objectives

(List of specific project objectives)

The specific objectives of this project are:

- ✓ Inventory, survey and characterization of habitats and of native populations of *Origanum vulgare* L. in European countries, members of ECPGR
- ✓ Collecting of herbarium specimens
- ✓ Study of genetic and chemical variability of oregano populations
- ✓ Documentation
- ✓ Exchange of characterization data among partners.

Workplan

(Short description of each activity including timetable)

Inventory and mapping of *Origanum vulgare* L. native populations are planned to be made in all project member countries. Genetic characterization of populations by microsatellites (Novak et al. 2008)⁴ and chemical analyses (20 samples per population, 3 populations per country, i.e. 60 samples per partner country) are planned to be made in one member country (Austria).

The following steps of the project have been anticipated:

➤ **Sampling of *Origanum vulgare* L. populations**

During the field work the identification and mapping of three selected areas (habitats of wild oregano populations) will be done. Geographical coordinates (latitude, longitude and altitude) will be recorded and when possible, the Environment and Site descriptors developed by the ECPGR MAP WG will be used for characterization of habitats.

➤ **Collecting of herbarium specimens**

Herbarium specimens will be collected according to the guidelines from www.herbarium.reading.ac.uk.

➤ **Study of genetic and chemical variability of oregano populations**

For chemical characterization the essential oil profiles will be analysed. After DNA isolation, genetic variability within and among *Origanum vulgare* L. populations will be analysed using the microsatellite technique (Novak et al. 2008). It has been planned that the project partners prepare samples for DNA extraction (20 plants per population, 3 populations per partner).

➤ **Documentation**

All collected accessions as well as habitats of native populations will be described by passport data (following ECPGR MAP WG general descriptors).

➤ **Distribution of collected data**

All collected data will be available for distribution to all project partners and made available to EURISCO (including C&E data).

⁴ Novak J, Lukas B, Bolzer K, Grausgruber-Gröger S, Degenhardt J. 2008. Identification and characterisation of simple sequence repeat markers from a glandular *Origanum vulgare* sequence tag. *Molecular Ecology Resources* 8:599-601.

Expected outcome

(Short description, resulting from the predicted activities)

The main outcome of the project is to gather data on the distribution of native populations of taxonomically defined oregano (*Origanum vulgare* L.) in ECPGR MAP WG member countries, partners of the project.

The material will be characterized genetically and chemically. The data on characterization of plant material and of habitats will be documented and distributed among partners.

The results of the project will be used in further studies and activities of the ECPGR MAP WG with respect to their valuable characters and future collection and implementation of conservation measures using concepts similar to AEGIS.

II. Work Plan Table (WPT)

Time frame	Actions
From June to September 2010	Member countries collect the plant material and record habitat data
By 1 October 2010	Samples are processed and sent to the subcontracted research institute according to internal guidelines (see Appendix II)
From October 2010 to 1 March 2011	Genetic and chemical analyses are performed
March 2011	Data are distributed among the partners and final report produced. Final report is sent to the Steering Committee for evaluation.

III. Detailed Budget Proposal (DBP)

An amount of 9800 € will be paid to the subcontracted research institute. The rest of the money will be shared equally among the partners after the plant samples for genetic and chemical analyses have been received by the subcontractor.

Appendix II. Project on “Conservation and characterization of oregano (*Origanum vulgare* L.) wild populations in Europe” – Guidelines for collecting, preparation and shipment of material

Number of populations

Three populations of the same species will be sampled in each participating country. These populations should preferentially originate from different regions (minimum 30 km distance apart or separated by a natural barrier) of the country. Each participant of the project is the responsible authority for the selection of the plant species (criteria: interesting use, characters, endangeredness,...) and of the populations of the same species which will be sampled.

Number of individuals per population

Analysis of 20 individuals per population will be done.

Sampling

Plant material from a minimum of 4 stems per plant (20 samples/population) will be harvested and put (4 stems per plant) into a paper bag, labelled with specimen number and collecting site.

Each partner will also collect two herbarium specimens (whole stems) per population (one to be sent to Vienna, one to remain in the country of origin) and photograph(s) of the plant. Guidelines for preparing herbarium specimens can be found at www.herbarium.reading.ac.uk.

Overall, 60 samples for genetic/chemical analyses and 6 herbarium specimens will be collected per country.

Sampling time

Beginning of flowering (presumed end of June – end of August 2010).

Drying

Room temperature in the shade or in artificial dryer (below 40°C).

Processing/preparation of the samples

Leaves/flowers should be separated from the stems and the leaf/flower fraction should be sent in paper bags, appropriately labelled (sample number, name of collecting site, country), to Prof. Dr Johannes Novak at the address below.

Prof. Dr Johannes Novak
Institute for Applied Botany and Pharmacognosy
University of Veterinary Medicine Vienna
Veterinaerplatz 1
A-1210 Wien
Fax: +43 1 250 77 3190
Tel: +43 1 250 77 3104
Email: johannes.novak@vetmeduni.ac.at

Deadline for sending the samples, together with site data, to Vienna: 1 October 2010

Example of data to be recorded for documentation of the site of sampling:

Collecting institute / Country	Specimen number	Genus	Species	Crop name	Longitude	Latitude	Altitude
SI018 / Slovenia	BFL 53-001/10	<i>Origanum</i>	<i>Origanum vulgare</i> subsp. <i>vulgare</i> L.	Wild oregano	5084151	422588	889 m
SI018 / Slovenia	BFL 54-001/10	<i>Origanum</i>	<i>Origanum vulgare</i> subsp. <i>vulgare</i> L.	Wild oregano	5087700	411740	1190 m
SI018 / Slovenia	BFL 55-001/10	<i>Origanum</i>	<i>Origanum vulgare</i> subsp. <i>vulgare</i> L.	Wild oregano	5074384	424251	925 m

It is recommended to use the General descriptors developed by the ECPGR MAP WG (Environment and Site) during the field work (sampling of the material) (see Web site: http://www.ecpgr.cgiar.org/Workgroups/Med_aromatic/med_aromatic.htm).

Eligibility for receiving the funds (approximately 610 € per country)

After the Institute for Applied Botany in Vienna receives the plant samples (60 plant samples per country; deadline 1 October 2010), money transfer will be made to the project partner.

Countries who have not sent oregano samples (appropriately documented, including background GPS information of the collecting site) by 1 October 2010, will not be eligible to receive the project money.

If you have any questions, please contact the Project Coordinator:

Prof. dr. Dea Baričevič
 University of Ljubljana, Biotechnical Faculty
 Jamnikarjeva 101
 1000 Ljubljana
 Slovenia
 Email: dea.baricevic@bf.uni-lj.si
 GSM: 0038641776653

Appendix III. Acronyms and Abbreviations

AARI	Aegean Agricultural Research Institute, Menemen, İzmir, Turkey
AEGIS	A European Genebank Integrated System
ARCNG	Agricultural Research Center of Northern Greece, Themi, Thessaloniki, Greece
BPGV	Banco Português de Germoplasma Vegetal (Portuguese Plant Germplasm Bank), Braga, Portugal
CRA	Consiglio per la Ricerca e la Sperimentazione in Agricoltura (National Council for Agricultural Research), Italy
CRI	Crop Research Institute, Prague-Ruzyne, Czech Republic
CWR	Crop Wild Relatives
ECPGR	European Cooperative Programme for Plant Genetic Resources
EU	European Union
EURISCO	European Internet Search Catalogue
FAO	Food and Agriculture Organization of the United Nations
IPGR	Institute for Plant Genetic Resources "K. Malkov", Sadovo, Plovdiv, Bulgaria
MAA	Most Appropriate Accession
MAP	Medicinal and Aromatic Plant
NAGREF	National Agricultural Research Foundation, Greece
PGR	Plant Genetic Resources
RICP	Research Institute of Crop Production, Prague-Ruzyne, Czech Republic
SEEDNet	South East European Development Network on Plant Genetic Resources
UPOV	Union internationale pour la protection des obtentions végétales (International Union for the Protection of New Varieties of Plants), Geneva, Switzerland
WG	Working Group
WHO	World Health Organization, Geneva, Switzerland

Appendix IV. Agenda

Fourth Meeting of the ECPGR Working Group on Medicinal and Aromatic Plants 29 September-1 October 2009, Kuşadası, Turkey

Monday 28 September 2009

*Arrival of the participants at Izmir airport and transfer to the hotel in Kuşadası.
Dinner at the hotel.*

Tuesday 29 September 2009

- 8:30-8:45 **Welcome address and opening remarks** (*Ali Osman Sari Vehbi Eser and Ana Maria Barata*)
- 8:45-9:15 **ECPGR and AEGIS update** (*Elinor Lipman, Bioversity International*)
- 9:15-9:30 **MAP meeting Introduction** (*Ana Maria Barata*)
- ✓ Scope of the meeting
 - ✓ Proposed Workplan
 - ✓ Amending of the Agenda, short discussion
- 9:30-10:00 **Achieved and expected results: 2004-2008** (*Ana Maria Barata*)
- 10:00-10:30 **Review on draft crop-specific descriptors:** tasks agreed and progress made (*Ana Maria Barata and Elinor Lipman*)
- 10:30-10:45 **Discussion**
- 10:45-11:15 *Coffee break*
- 11:15-12:00 **Summary of country reports** (*Åsmund Asdal*)
- 12:00-13:00 **Discussion**
- 13:00-14:30 *Lunch*
- 14.15-14.30 **National PGR Programme of Turkey** (*Ayfer Tan*)
- 14:30-15:00 **MAP Database of *in situ* populations – status and perspectives**
(*introduced by Ana Maria Barata*)
- 15:00-16:00 **Discussion**
- 16:00–16:30 *Coffee break*
- 16:30–17:00 **Documentation of *ex situ* collections** (*Ana Maria Barata and Elinor Lipman*)
- 17:00–17:30 **Discussion**

Dinner at hotel and social night at Castle of Kuşadası

Wednesday 30 September 2009

- 8:30–9:00 **Report from the Eleventh SC meeting (September 2008) concerning the MAP WG (Åsmund Asdal)**
- 09:00-11:00 **Oregano Project (Dea Baričević and Johannes Novak)**
- ✓ Presentation of the new workplan proposal
 - ✓ Coordination and implementation
 - ✓ Countries involved
 - ✓ Financing
 - ✓ Guidelines for collection and expedition of oregano material for the analyses
- 11:00-11:30 *Coffee break*
- 11:30-13:00 **Discussion**
- 13:00–14:30 *Lunch*
- 14:30-15:30 **Define tasks, responsibilities and time frame plans during Phase VIII of ECPGR (Ana Maria Barata and Åsmund Asdal)**
- 15:30–16:00 **Discussion**
- 16:00-16:30 *Coffee break*
- 16:30–17:00 **Discussion (continued)**

Dinner at hotel

Thursday 1 October 2009

- 09:00–16:30 **Drafting of the report**
(for members not involved: excursion to Ephesus and AARI)
- 16:30–18:30 **Discussion and approval of the report of the 4th meeting**
- 18:30–19:00 **Selection of Chair and Vice-Chair**
- 19:00–19:30 **Conclusion and Closing remarks**

Dinner at hotel

Friday 2 October 2009

Transfer of participants from the hotel to Izmir airport

Appendix V. List of participants

Fourth Meeting of the ECPGR Working Group on Medicinal and Aromatic Plants 29 September-1 October 2009, Kuşadası, Turkey

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