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## Revista de Fitoterapia

ÓRGANO OFICIAL



LIBRO DE RESÚMENES · LIVRO DE RESUMOS · BOOK OF ABSTRACTS



### ISE 2010

11th Congress of the International Society  
of Ethnopharmacology.

*Continuity and change in ethnopharmacology:  
Transdisciplinary science for our future*



### EHPE 2010

1er Encuentro Hispano-Portugués de Etnobiología:  
Los desafíos de la Etnobiología en España y Portugal

I Encontro Hispano-Português de Etnobiologia:  
Os desafios da Etnobiologia em Espanha e Portugal

Albacete, Castilla - La Mancha (España). 20-25/Sept/2010

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#### Diseño, maquetación e impresión

www.denou.com

Depósito legal V-490-2000 · ISSN 1576-0952

La Revista de Fitoterapia está indexada en el IME (Índice Médico Español), en Latindex, en la Base de Datos ICYT de Ciencia y Tecnología, en la Base de Datos IBECs (Biblioteca Nacional de Ciencias de la Salud), Ulrich's Periodicals Directory y EMBASE (Excerpta Medica Database).

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## 11th Congress of the International Society of Ethnopharmacology (ISE 2010). *Continuity and change in Ethnopharmacology: Transdisciplinary science for our future*

### & 1er Encuentro Hispano-Portugués de Etnobiología (EHPE 2010): Los desafíos de la Etnobiología en España y Portugal

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# International Society for Ethnopharmacology

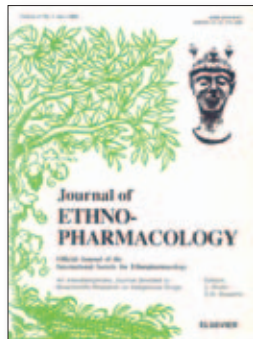
The ISE promotes a critical discussion between everyone interested in local and traditional knowledge on medicinal, food and toxic plants and their past, present and future.

In many regions of the world such knowledge is changing fast and an ongoing concern of many members of the society is both a dialogue with the owners of traditional knowledge and to find ways to ascertain that such knowledge is passed on to future generations. Knowledge about traditional drugs/medicines is put into practice in different cultural settings in daily health care, nutrition, veterinary, hunting, pest control etc. We are interested in the perception and the interface of the emic and ethic perspective of such knowledge and we encourage and promote the future use of such local and traditional knowledge. Our research approach is increasingly transdisciplinary trying to strengthen the link between the social and the natural sciences.

For more information and to learn how to join the society as a member, please go to the following link [www.ethnopharmacology.org](http://www.ethnopharmacology.org)



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**E1-P14 Antioxidant components in strawberry-tree fruits (*Arbutus unedo* L.)**

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**Background:** Wild plants have historically been an important complement to diet in rural areas of the Mediterranean region. Last trends in human nutrition include an increasing interest on wild species as potential sources of bioactive compounds or functional foods.

**Objectives:** To evaluate the content of some bioactive compounds in the fruits of *Arbutus unedo* L., a Mediterranean species traditionally consumed in Spain.

**Methods:** Samples were gathered in two different areas from Central and Western Spain. They were analysed for vitamin C, both as ascorbic acid (AA) and dehydroascorbic acid (DHA) by HPLC, carotenoids by HPLC and phenols by Folin-Ciocalteu method.

**Results and conclusions:** The samples analysed have showed much higher levels of vitamin C than many conventional fruits (133-262 mg/100 g), being AA the major form, with a high antioxidant activity. Carotenoids were -carotene the predominant one. Phenols were quantified, being in levels of 624-1961 mg/100 g. Due to the presence of these components, with demonstrated antioxidant activity, strawberry-tree fruits can be good sources of bioactive compounds and its intake could contribute to enhance the quality of the diet.

**Keywords:** Strawberry-tree fruits, *Arbutus unedo* L., antioxidants, vitamin C.

**E1-P15 Management and sustainable use of medicinal and aromatic plants as a contribution to the valorisation of the rural areas – an ethnobotanical approach**

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**Background:** Since the antiquity plants have been used by Man for food, condiment as well as for their therapeutic properties. At present, it is estimated that 70% of the drugs used in modern medicine are of plant origin.

**Objectives:** The study aims to collect, conserve and characterise the genetic diversity of medicinal and aromatic plants (MAP) and to document cultural heritage and traditional ecological knowledge (TEK) related with their use.

**Methods:** The study was implemented through an ethnobotanical approach, which recorded plant-use and TEK, and the systematic collecting, conservation, characterisation and documentation of plant germplasm.

**Results and conclusions:** A total of 1107 people were interviewed resulting in 1386 ethnobotanical questionnaires, covering vast and diverse regions of Portugal. Standards for morphological characterisation were developed for those species for which internationally proposed standards did not exist. A total of 213 samples, representing nine Genera, were collected, conserved, characterised and documented in the Portuguese Gene Bank.

**Keywords:** MAP, Ethnobotany, Traditional knowledge, Germplasm characterisation and conservation.

# Management and sustainable use of medicinal and aromatic plants as a contribution to the valorisation of the rural areas: An ethnobotanical approach

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## 1. INTRODUCTION

For more than three decades the Portuguese Gene Bank (INRB/IP/BPVG) has been collecting, documenting, characterising and conserving the diversity of crops and wild relatives, including medicinal and aromatic plants (MAP) traditionally used in Portugal.

Over a four-year period, BPVG with 8 national partners carried out a research project (AGRO 34) implemented in different regions of Portugal, aiming to select MAP target taxa, considering important indicators such as: ecogeographic distribution; biological and sociocultural importance; genetic distinctiveness; potential economic use; threat of genetic erosion; current conservation status; traditional ecological knowledge (TEK) status; feasibility and sustainability of the conservation and use; and particular/relevant contributions to rural development and local/regional subsistence.

## 2. METHODS

Different methodological strategies were outlined to capture and conserve as much genetic diversity as possible and make it available for sustainable use. The research team developed the following main actions:

- ✓ ethnobotanical survey: consented structured interviews and inventory
- ✓ ecogeographic surveys and systematic collecting missions
- ✓ characterization and documentation of the selected germplasm
- ✓ improvement of propagation techniques and conservation strategies (ex situ and in situ) as applicable and appropriate to each taxa conserved
- ✓ public awareness and promotional activities, such as open public events, field trips and educational plots and gardens.

## 3. RESULTS AND DISCUSSION

### 3.1. Ethnobotanical data

- ✓ 1107 people interviewed in different municipalities from the north, centre, and south-eastern Portugal, including populations living in natural protected areas
- ✓ Most species and use-reports were mentioned by women, 60 years old or more and with primary education
- ✓ Women are the guardians of TEK and of a rich cultural heritage; then they are also responsible for cultural heritage and for the preservation and transmission of MAP related knowledge, uses and practices
- ✓ Evidence from the inventories, suggests that the loss of traditional MAP uses and practices risks a decrease in the number and variety of plant species used, with the consequent narrowing of the role of healthy traditional plant resources in the local diet and medicine and threatening species survival
- ✓ Notwithstanding, for every regions surveyed the use of MAP still plays an important role in spite of the confirmed loss of TEK. The most cited were *Melissa officinalis*, *Malva sylvestris*, *Sambucus nigra*
- ✓ At least 140 different species of MAP, grouped in 50 Genera, were mentioned and inventoried during the research project; however some were used restrictively, such as *Mentha cervina* and *Vaccinium myrtillus*, mainly due to their more restricted ecogeographic distribution.



Figure 1 Ethnobotanical surveys

### 3.2. Selected taxa

Considering the indicators mentioned above, the following taxa were targeted for characterisation, conservation and management:

*Centaurea erythraea*, *Cynara cardunculus*, *Coriandrum sativum*, *Lavandula stoechas*, *Melittis melissophyllum*, *Mentha* (*M. aquatica*, *M. cervina*, *M. longifolia*, *M. pulegium*, *M. spicata*, *M. suaveolens*), *Origanum virens*, *Thymus* (*T. caespititius*, *T. pulegioides*), *Vaccinium myrtillus*

### 3.3. Conservation and management of MAP resources: synthesis of main activities

- ✓ Collecting: a total of 213 samples, representing nine Genera, were collected, conserved, characterised and documented (INRB/IP/BPVG)
- ✓ Conservation: seed germination tests, improvement of multiplication and regeneration techniques and methods adapted to each taxa were developed
- ✓ In situ conservation of those species reported in the protected areas: reserves in the southern region and in the National Park of Peneda-Gerês (north of Portugal)
- ✓ Ex situ conservation: seed storage at low temperatures for medium and long-term conservation (INRB/IP/BPVG)
- ✓ Ex situ conservation: field gene-bank collection and botanical garden (INRB/IP/BPVG in the north, ESACB in the centre, ESAE in the south)

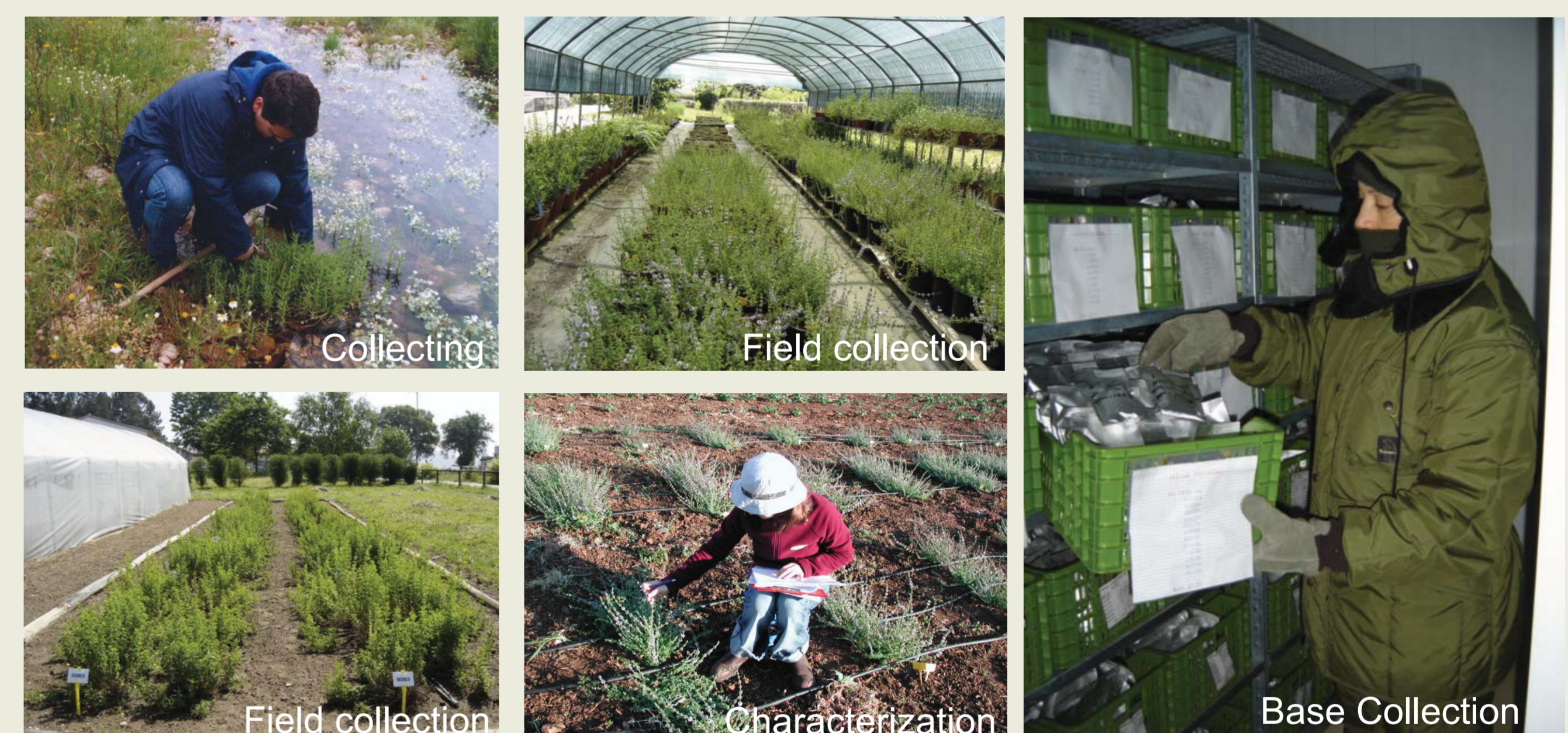


Figure 2 Details of the conservation and management of MAP resources

### 3.4. Passport data and morphological descriptors

- ✓ Passport data collecting sheets for wild species were created;
- ✓ A database for recording passport data, ethnobotanical inquiries and inventories, as well as experimental results of propagation and cultivation was developed;
- ✓ New morphological descriptors lists for the genera *Cynara*, *Mentha*, *Origanum* and *Thymus*, were developed following international standards.

### 3.5. Ethnobotany, conservation and local development

- ✓ Most of the MAPs reported in this project are important resources traditionally used and playing an important role in the sustainable rural development and local/regional subsistence of several Portuguese regions. Together with other useful plants, MAPs are often only available seasonally and consumed under particular processes and conditions. There is an urgent need to document and analyse such local resources, which are today at the brink of disappearance because rural landscapes are rapidly changing and diversifying due to aging and the abandonment of traditional agricultural systems.
- ✓ The ethnobotanical approach promotes cultural heritage and facilitates information about potential neglected resources that can be interesting for research and conservation programmes.
- ✓ The data collected in the project activities emphasises a relevant linkage between TEK, intergenerational transmission of the knowledge, resources availability, sustainability and conservation. These are fundamental for local development and management through the diversification of income sources, exodus reduction of the rural population and sustainable development.

## REFERENCES

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## ACKNOWLEDGEMENTS

The authors are grateful to all the informants who kindly shared their knowledge and expertise and are indebted to the Agro 34 partners, especially to Rena Farias (coordinator), F. Delgado, R. Caldeira, O. Póvoa, N. Farinha, J. Alves Ribeiro, H. Tiago, G. Borges de Macedo