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Editorial

In presenting this second issue of the MEDUSA Newsletter, it is appropriate to highlight some of the major developments of the Network during the past year. The membership of the Network currently consists of – Algeria, Egypt, France, Greece, Italy, Morocco, Portugal, Spain, Turkey, Tunisia. Cyprus and Syria are represented by observers. We hope that it will be possible to extend the Network to include all Mediterranean countries.

A great deal of effort has been put into preparing the Priority List of Useful Mediterranean species belonging to the 14 main categories of uses: food, food additives, animal food, bee plants, invertebrate foods, materials, fuels, social uses, vertebrate poisons, non-vertebrate poisons, medicines, cosmetics, environmental uses, gene sources. It is planned to revise and complete the database during the course of 1998 and then to extend it by adding a number of other fields such as indigenous knowledge, trade, phytochemistry, conservation and

population biology. Information on these new fields will be requested from the network members and the information will be entered into a new database platform.

By the time this Newsletter appears, the Proceedings of the second MEDUSA Workshop, held in Monastir, Tunisia, in 1996, will have been published. This contains eight major country profiles, in addition to a series of other thematic papers, and will be a major source of reference on the wild plants of the region and of the institutional and technical resources that are involved in research into their taxonomy, ecology, conservation and sustainable use.

Other MEDUSA publications are being planned, including leaflets on various topics such as the wild harvesting of species and a booklet on conservation and sustainable use of plant diversity in the Mediterranean region. An invitation is extended to all those who would like to participate in our various tasks.

VERNON HEYWOOD
*Editor and Chair of the MEDUSA
Steering Committee*

Activity Reports

Collecting landraces and wild relatives in the Italian small islands

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Within the framework of an agreement between the Germplasm Institute (IG) of Bari (Italy) and the Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK) of Gatersleben (Germany), a research project was started in 1994 to safeguard crop genetic resources of Italian small islands (Laghetti *et al.* 1996). The main aim of the explorations is to fill the gap left by several previous floristic investigations that did not consider cultivated plants and the degree of genetic erosion affecting them. The importance and characteristics of these well delimited habitats, even today often little disturbed by recent anthropization, were recently discussed by Hammer *et al.* (in press) and Laghetti *et al.* (1998). Proposals to make some of these islands centres for on-farm conservation of plant genetic resources were also suggested (Hammer *et al.* 1997, Laghetti *et al.*, in press). In these papers, checklists of the cultivated plants of Ustica and Linosa islands were also presented, together with details on sampling strategies and the modern exploration tools that were used.

The following islands were explored so far: Lampedusa, Linosa, Pantelleria, Ustica, Eolian archipelago and Neapolitan islands.

In total 241 accessions were gathered, mainly representing wild relatives of Mediterranean crops, and landraces of vegetables, pulses, cereals and aromatic plants. During the expeditions some specific and unusual uses of local wild plants

were also observed (e.g. *Lavatera arborea* L. in Linosa, Laghetti *et al.* 1998). The general situation of local agriculture on almost all Italian small islands visited until now, is very similar: this economic activity is reduced with respect to the past and today it is practised mainly for family consumption. Nowadays, very few families live only from agriculture. Many agricultural products come from outside the islands and the local people prefer the profits from tourism as they are richer and less tiring to obtain. An integrated approach of sea defence and on-farm conservation of local germplasm would represent a strategy to stop the high crop genetic erosion detected on these small islands. A possible economic strategy that could be proposed for local people would be to add to the wonderful marine attractions for tourists, the more traditional local agrarian products, rural gastronomy, ethnobotanical information and agricultural history through 'museums of local rural culture'.

The accessions collected will be grown at Bari and Gatersleben for multiplication, further classification and characterisation. Later on, they will be freely available for distribution to scientists.

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Une agence specialisee pour le developpement de la recherche scientifique en Algerie: Agence Nationale pour le Developpement de la Recherche en Sante (ANDRS)

A specialized agency for the development of scientific research in Algeria: National Agency for the Development of Health Research (ANDRS)

Pour la promotion de la recherche scientifique en Algerie, le ministere de l'enseignement superieur et de la recherche scientifique conjointement avec d'autres ministeres a mis en place des structures specialisees pour le developpement de la recherche scientifique. Parmi ces structures l'ANDRS est chargee d'executer le Programme National de Recherche en Sante (PNRS). Ce programme presente 5 domaines d'application:

1. Sante publique et sciences sociales en sante
2. Recherches cliniques ou appliquees
3. Recherche fondamentale et biologique
4. Ingenierie medico-sanitaire
5. Produits pharmaceutiques

En 1997, plusieurs projets ont ete agrees dans le domaine des produits pharmaceutiques, traitant plus

particulièrement des plantes médicinales et aromatiques du pays. Ces projets sont gérés par l'ANDRS:

- Etude et valorisation des plantes médicinales et aromatiques nationales. CRAPC-USTHB, Alger.
- Recherche d'inhibiteurs de β -lactamases parmi les polyphénols d'origine végétale. Hôpital A. AIT IDIR, Alger.
- Valorisation des noyaux d'abricots rebus des industries de conserve: extraction de l'huile d'amande. INAA, Alger.
- Etude des plantes médicinales et aromatiques du parc national de l'Ahaggar (extrême sud algérien). UST Bida- INESSM Alger.
- Exploitation de la flore algérienne à des fins pharmaceutiques. Univ. de Constantine.
- Vers l'élaboration d'une pharmacopée nationale des plantes médicinales: étude et réalisation de monographies préliminaires. Univ. de Constantine.
- Etude et détermination de principes actifs de plantes médicinales algériennes, différenciation morphologique et accumulation de métabolites secondaires. Univ. de Constantine.
- Effets anti-ulcéreux des polyphénols naturels. Univ. de Setif.
- Rôle de la xanthine oxydase humaine et bovine dans la génération de radicaux libres oxygénés. Les plantes médicinales et aromatiques de la région de Setif. Univ. de Setif.

- Etude structurale, physico-chimique, biologique et pharmacologique des polyphénols et saponines végétales. UST Es senia Oran.

A recent study on commercialization, exploitation and conservation of medicinal and aromatic plants in Spain

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This study was undertaken by a team directed by E. Blanco and J. Breaux (for their recent contact addresses ask Ramon Morales at morales@ma-rjb.csic.es). The report was produced for TRAFFIC-Europe, as the result of cooperative research of a small team and an expert panel during a 5-month period. The specialist advisory panel was consulted to determine hot spots of conservation and trade of threatened wild species. A main contribution was made by a specialist meeting held at the Cordoba Botanic Garden. Questionnaires were mailed to over 500 people in the Iberian Peninsula and Balearic Islands, and about 15% of them responded. Information from forestry agencies was most relevant for the purpose of this study.

The study report is divided into three main parts: 1. General Botanical Overview and the Issue of Conservation. 2. The Legal Framework as Concerns Medicinal Plants in Spain. 3. Economic and Market Perspective. It also includes appendices on Spanish experts, commercial companies, laboratories, wholesalers and related interests, and a listing in a CINDOC Database of material employing medicinal and aromatic plants. A small database concerning the most

significant 65 medicinal species of Spain was also prepared.

Recent research and literature on ethnobotany and economic botany in Spain

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This note continues the information on ethnobotanical research in Spain that appeared in the first issue of the MEDUSA Newsletter.

Ethnobotanical research is a useful tool for determining traditional uses which are of interest for sustainable practices involving wild plant species.

The research focused mainly on the gathering of first hand information from rural populations. A wide range of plant uses was considered, although the coverage of medicinal plants was much more extensive. In-depth research concerning traditional technologies has been highly relevant in the study of the uses of esparto grass (*Stipa tenacissima* L.). The study of traditional management of seminatural ecosystems made by Salvador Mesa in Sierra Magina (prov. of Jaen) merits a special mention.

The following list is in two parts – books and theses:

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Germplasm conservation at the Istituto di Miglioramento Genetico Vegetale (IMGV), Università degli Studi, Perugia, Italy

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Since the 1970s the Istituto di Miglioramento Genetico Vegetale (IMGV) of Perugia University has been intensively acquiring germplasm, both collecting it along the Italian peninsula and exchanging it with other institutions. This has resulted in a collection which presently includes about 3400 accessions of forages, 100 of horticultural crop species, 30 of oil crops for industrial purposes, 35 of medicinal crops, 400 of barley and 9 of apple, representing a total of over 100 different species. Breeding lines, varieties, landraces, ecotypes and natural populations or, depending on the species, all these types of materials, are present in the collection. The collection is run without specific funding and serves

the scientific and breeding activities of the Institute, but accessions are also exchanged with other institutions when sufficient propagation material is available.

Missions for collecting information and material

The collection of information is the first step in any germplasm conservation activity, since it is useless to preserve material with unknown adaptive, agronomic, qualitative or organoleptic characteristics. In the case of landraces, this also helps to understand the incentives that eventually exist for farmers to continue their cultivation and the risk of genetic erosion they are running. The information collected can also be utilized in planning an effective programme of *in situ* germplasm preservation.

In order to collect reliable and standardized information, the strategy adopted by the Institute is to approach the farmers in a friendly manner, explaining to them the reasons for the visit and interview.

During the interview, information about size, location, running, management of the farm, composition of the farm family is collected. The germplasm collector then asks if there are species that have been routinely propagated on the farm in the last two decades, if so, is it possible to have some propagation material; detailed information on adaptive, agronomic, qualitative or organoleptic characteristics relative to it are also collected, utilizing previously prepared forms. After the publication of internationally accepted descriptors they adopted the standardized form suggested by FAO and IPGRI with, in addition, fields related to traditional uses and

folk knowledge peculiar to each crop.

In the case of wild material, such as forage ecotypes, the collectors record all the information required by international standards.

The risk of genetic erosion in central Italy

In intensively cultivated areas of central Italy it is more difficult to find landraces of field crops than in marginal areas such as mountains or hills. In intensively cultivated areas such as that of Trasimeno Lake, the smaller the size of the farm the easier it is to find landraces. In this area many families, though living in the country, have an income based on non-farming sources and the limited land available is seen more as a source of food for direct consumption (kitchen garden) rather than for direct income by selling the products. In this area, in fact, it was possible to find landraces of horticultural (bean, chickpea, cowpea, pumpkins, squashes, watermelon, melon, tomato, pepper, salad, beet, cabbage, spinach) and aromatic crops (onion, basil, parsley), but not of open field crops.

The risk of genetic erosion of these materials is quite high because only the elderly of the family are in charge of the kitchen garden and hence of the seeds.

In marginal areas of Central Italy it is sometimes possible to find landraces of open field crops because they can withstand the harsh environment better than the varieties found on the market and because of the high quality product with a well-defined market which assures a higher income for the farmer. In the area of the Appennine mountains this is the

case of emmer wheat (*Triticum turgidum* var. *dicoccum*) and lentil (*Lens culinaris*); in addition, landraces of horticultural crops, such as *Phaseolus vulgaris*, with a very rich market are also found.

The agricultural practices used to grow these species are a mixture of modern and traditional, depending on the situation. Emmer cultivation is completely mechanized, but the use of chemical fertilizers is banned on those farms practising biological agriculture; in this crop, pests generally do not require control. Lentil cultivation is generally conducted according to biological practices; sowing and harvesting are almost completely mechanized and the only manual task is the piling of the windrows so they can dry better. Seed cleaning is partly manual.

In both areas it is sometimes possible to find and collect underutilized crops, wild crops with particular uses or staple crops with peculiar uses. Among these we found different landraces/ecotypes of *Salsola kali*, *Pisum arvense* and *Lathyrus cicer*, and a white landrace of *Zea mais* used as an ornamental in weddings.

In the case of forages, wild populations of grasses and legumes are still present in natural pastures in the hill and mountain parts of the country, on the contrary the use of alfalfa landraces is rapidly decreasing to meet EU requirements and this leads to the loss of very valuable germplasm of this species.

Ex situ conservation activities

Once collected the landraces enter the conservation procedure of the IMGV. The seed-propagated crops are normally stored as seeds. The seed is first cleaned, part of it is

sanitary-checked, entered with an accession number, together with all the information available, dehydrated till an average moisture content of 7-8% in an air circulating seed dryer is reached, vacuum sealed in aluminum packets and stored at -18°C in a freezer. Under these conditions the seed remains viable for many years. Part of the seed is generally used in programmes of characterization, evaluation and breeding; the information collected during these programmes is also stored in a database system that is nearly completed.

In apple, which is a vegetatively propagated species, conservation is carried out both *in vivo* and *in vitro*. Nine landraces of apple with peculiar characteristics for harvesting date, vigour and tree productivity, fruit storage capability, size, shape, colour, taste, texture and fruit firmness were collected in different areas of Umbria.

The *in vivo* collection of these materials is maintained at the experimental field of the Institute. Two of these old varieties are also successfully preserved *in vitro* at the IMGV laboratories.

In situ conservation activities

In addition to developing a germplasm bank, IMGV is involved in *in situ* conservation activities (integrated conservation) to promote the cultivation of landraces in a high quality, environmentally friendly type of agriculture.

The Institute undertook the morphological characterization, the agronomic evaluation and the genetic characterization of several landraces of cowpea from Trasimeno lake obtained from different farmers.

Landraces were found to be different at morphological and molecular level from commercial material. This could allow a claim to be made for a legally defensible trade mark such as Protected Designation of Origin (PDO) or Protected Geographical Indication (PGI) and would also assure their successful conservation *in situ*, increasing the market value of the crop. Similar projects are carried out for lentils, emmer and beans.

Great effort is devoted by members of the Institute to stress the importance of this type of *in situ* conservation in their teaching and public activities.

Etat de recherche bibliographique dans les pays du Magreb

Bibliographic research in the countries of the Magreb, Partie II
Bibliographic research in the country of the Maghreb, Part II

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Introduction

Ce travail fait le point des connaissances actuelles sur la medecine traditionnelle Marocaine en general et sur les plantes medicinales et aromatiques en particulier.

Les resultats obtenus nous livrent un savoir faire tres riche.

Il faut rappeler que l'exploitation et l'utilisation des plantes a connue une importante croissance en particulier les plantes medicinales et aromatiques. La decouverte de nouvelles especes, de nouveaux emplois comme adjuvant chimiques, parfums, antibiotiques, anti-

microbiennes, antivirales ou anti-tumorales, vitamines, hormones, anti-oxidants, insecticides etc...

Tout cela a contribué au développement de la médecine par les plantes, qui sont actuellement cultivées et servent à l'isolation et à la production de matières premières nécessaires à la fabrication de produits et de médicaments élaborés. Plusieurs médicaments utilisés de nos jours, sont extraits de substances végétales sur la base des études ethnobotaniques. Les végétaux continuent à occuper une place de choix, il en est ainsi des cardiotoniques (digitale), des purgatifs (Bourdain, Senes), des antibiotiques (penicillines), des modificateurs du système nerveux autonome (Belladone), des cholagogues (Boldo), des anti-diarrhéiques (Rosacées), des diurétiques, des dépuratifs et autres.

Il faut noter aussi, que le produit végétal abondant et bon marché, peut constituer une alternative de choix pour des soins à bon marché. Au Maroc, la médecine traditionnelle occupe une place importante.

Le présent travail entre dans le cadre du programme de recherche de l'U.F.R : substance naturelle de la faculté de médecine et de pharmacie, sous la responsabilité du Pr. M. Hmamouchi, dont l'objectif principal est la conservation, la protection et la valorisation du savoir-faire et des plantes médicinales et aromatiques marocaines. Cette étude fait suite à celle déjà publiée sur la synthèse des travaux effectués dans notre faculté (MEDUSA Newsletter N° 1, 1997.).

Dans cet exposé, nous présentons la deuxième partie de la synthèse des travaux que nous avons réalisés. Pour plus d'information, les

principaux ouvrages et travaux de références seront consignés dans la dernière partie.

Analyse des travaux réalisés depuis 1992.

En 1992, Faiz. A., étudia les intoxications végétales au Maroc. Il effectua une enquête rétrospective auprès du centre antipoison de Rabat, sur les cas d'intoxications par les végétaux entre l'année 86 et 90, ces intoxications végétales représentent 2.4% de tous les cas d'intoxications. Parmi les plantes en cause, on trouve en première le chardon à glu avec 68 cas, Harmel 11 cas, *Datura* 8 cas, lavande 8 cas et le Tabac 6 cas. Il présenta les monographies de 26 plantes toxiques, enfin il étudia la chimie et la toxicité de *Ferula communis*, surtout l'action du ferulenol sur les rats.

En 1992, Nabih M. réalisa une enquête ethnobotanique auprès de 400 personnes dans la province de Settat. Cette étude montre que :

- 79% des individus utilisent les plantes, dont 61% de sexe féminin.
- les plantes médicinales sont utilisées pour traiter les affections digestives 31.8%, respiratoires 19.4% et dermatiques 18.8%.

En 1992, Bentouto M. a fait une étude de la médecine traditionnelle par les plantes dans la région de Demnate. Il mena une enquête auprès de 300 personnes, il nota les données suivantes :

- 70% des individus utilisent les plantes, dont 65% de sexe féminin.
- l'utilisation de la phytothérapie est importante à partir de l'âge de 50 ans.

- 65% des utilisateurs des plantes sont des analphabètes.
- 60% pour traiter des affections digestives, 20% rhumatismales, 20% urinaires.
- 58% des individus ont recours à l'expérience des autres.

Enfin, il étudia la monographie d'une quarantaine de plantes ainsi leurs justifications thérapeutiques.

En 1993, Mehdaoui M. traita la phytothérapie à la province d'Eljadida. Il mena une enquête ethnobotanique auprès de 400 personnes, et il montra que :

- 72.6% des individus utilisent la médecine par les plantes.
- 63.7% des individus sont de sexe féminin.
- 35.9% pour traiter les maladies digestives, 21.3 %, respiratoires, 8.1%, rhumatismales. Enfin, il signala les recettes traditionnelles pour traiter certaines maladies.

En 1993, Asdadi A. étudia l'effet hypoglycémiant de deux plantes médicinales, la nigelle et le fenugrec. Il mena une étude préliminaire en contrôle croisé, et en simple insu, sur 11 malades diabétiques non insulino-dépendants. L'effet hypoglycémiant des deux plantes est comparé à l'effet de 80 mg de Gliclazid/Diamicron ®

Il nota enfin la diminution significative de la glycémie maximale, et de l'air de la glycémie des la 30ème minute, et qui persiste jusqu'à la fin de l'épreuve.

En 1993, Didouche, étudia la phytothérapie dans la province de Khouribga. Elle trouva que 55.7% de la population se soigne par les plantes médicinales. La plus part des utilisateurs sont d'un niveau socio-économique bas ou moyen, et que

la source d'approvisionnement reste dominee par les 'attars'.

En 1993, Sellam, prepara une etude intitulee 'la phytotherapie a travers la medecine du prophete et la science moderne' ainsi elle traita :

- la relation entre le Coran et la sante .
- les plantes medicinales citees dans le sunna.
- la phytotherapie dans la science moderne.
- les recommandations de l'O.M.S, concernant la medecine populaire et surtout la medication par les plantes.

En 1993, Babaenass, mena une enquete a Rabat-Sale, Casablanca et Kenitra, aupres d'une centaine de personnes et de 10 herboristes. Elle releva les pratiques traditionnelles marocaines en matiere du traitement des affections cutanees par les plantes medicinales, cicatrisantes, anti-inflammatoires, et antifongiques. Enfin, elle rapporta, l'interet therapeutique des recettes collectees au cours de l'enquete.

En 1993, Zouyen M. a mene une etude experimentale, dans le but de relever l'activite antipelluculaire de neuf huiles essentielles, extraites de plantes medicinales. Il testa les actions suivant deux modes: en micro-atmosphere et badigeon. Il nota les resultats suivants :

- en microatmosphere, l'effet mortel est du au cineole et a l' α -pinene
- en badigeon, l'activite antipelluculaire, est plus importante qu'en microatmosphere, elle est due a la fraction constituee d'alcools et/ou de cetones.

En 1993, Bainty M. etudia les plantes medicinales utilisees dans le traitement des affections digestives, il realisa une enquete aupres des herboristes de Casablanca et d'Eljadida, ainsi qu'aupres des malades du service de gastro-enterologie au C.H.U Ibn Rochd. Il presenta les resultats suivants :

- 67% des individus utilisent la phytotherapie, dont 60% de sexe feminin.
- l'utilisation de ces plantes augmente a partir de l'age de 40 ans.
- 70% des utilisateurs des plantes medicinales sont des analphabetes.

En 1993, Taleb Elhouda a mene une etude botanique, chimique, pharmacologique et toxicologique du tabac. Elle precisa que le tabac est une plante herbacee appartenant a un genre de la famille des solanacees: *Nicotiana*, qui se subdivise en 3 varietes. Elle donna aussi les composantes toxiques du tabac comme les alcaloides, l'oxyde de carbone, les irritants et les substances carcinogenes. Elle signala la definition et l'impact toxicologique du tabagisme, ainsi l'effet du tabagisme sur la prise des medicaments.

En 1993, Farazdaq T. effectua une etude sur les plantes medicinales utilisees dans le traitement des maladies de l'appareil digestif, a la ville de Kenitra. En effet, il a mene une enquete ethnobotanique. Enfin, il a donne une justification therapeutique des plantes utilisees.

En 1994, Bajji A. traita les plantes medicinales dans la region de Khenifra. Il etudia les plantes medicinales appartenant aux familles botaniques.

En 1994, Bahammou A, etudia la phytotherapie dans la region de Oued-noun. Il a fait une enquete ethnobotanique aupres de la population de cette region, il donna les resultats suivants :

- 63%des individus se soignent par les plantes.
- la source d'approvisionnement reste dominee par l'experience des autres.
- les plantes sont surtout utilisees pour traiter les affections digestives.
- la plus part des utilisateurs sont d'un niveau socio-economique bas ou moyen.

Il signala les justifications therapeutiques.

En 1994, Benali H. a fait un travail rassemblant toutes les plantes citees par notre prophete, ainsi leurs compositions chimiques, et leurs utilisations therapeutiques. Elle presenta les monographies des plantes citees par Ibn-Al baytar, puis elle s'interessa aux donnees economiques relatives aux plantes medicinales et aromatiques importees et exportees par notre pays. Enfin, elle insista sur l'interet d'elaborer une pharmacopee marocaine.

En 1994, Bassim A. effectua un travail sur l'activite anti-bacterienne de quelques plantes medicinales. Elle presenta en premiere partie les monographies des plantes qui possedent une activite antibacterienne. En deuxieme partie, elle testa les extraits methanoliques de ces plantes vis a vis de quelques souches bacteriennes; elle trouva que le tamarin possede l'activite anti-bacterienne la plus importante.

En 1994, Monadil Y. etudia l'utilisation des plantes medicinales

dans la region de Ouarzazate. Pour cela, il mena une enquete ethnobotanique et ethnopharmacologique. Cette derniere a revele les resultats suivants :

- 73% des individus utilisent les plantes medicinales.
- 70% des utilisateurs de la phytotherapie sont des analphabetes.
- 70% des individus utilisant les plantes medicinales ont un age de 60 ans ou plus.
- les plantes sont souvent utilisees pour traiter les affections digestives, 42% dermiques, 18% rhumatismales, 17% urinaires, 16% cepheales.

Il recensa 130 recettes a base de plantes medicinales, chez 101 tradipraticiens. Il presenta les monographies des principales plantes recensees, et formula une discussion sur les justifications therapeutiques de ces plantes.

En 1994 Loutfi S. a fait une etude sur l'application de la phytotherapie en gynecologie, elle presenta 86 plantes utilisees en gynecologie en precisant l'identification botanique. La composition chimique, et les proprietes medicinales, enfin leurs application en gynecologie et leurs toxicites. Elle traita les recettes utilisees en cas d'affections gynecologiques, et donna les schemas therapeutiques le syndrome premenstruel, les dysmenorrhées, les irregularites menstruelles, les hemorragies genitales, la menopause.

En 1994, Hijazi S. s'interessa a l'application de la phytotherapie en obstetrique, son etude a porte sur 80 plantes medicinales, utilisees en obstetrique, elle presenta les indications particulieres de la

phytotherapie en obstetrique, comme la grossesse, l'avortement, l'accouchement normal, l'allaitement.

En 1995, Sedram R. effectua une enquete aupres de 400 personnes, sur l'utilisation des plantes medicinales en therapeutique, d'Essaouira. Il releva les resultats suivants :

- 72% des individus utilisent les plantes medicinales, dont 80% de sexe feminin.
- les plantes medicinales sont tres utilisees par les personnes dont l'age est superieur a 20 ans.
- les plantes sont souvent utilisees pour soigner les maladies rhumatismales, 38% digestives, 36% urinaires.
- pour s'informer sur l'utilisation des plantes medicinales, 37% des individus ont recours a l'experience des autres, 35% aux tradipraticiens, 12% a l'herboriste, 4% au pharmacien.

Enfin, il realisa une etude bibliographique d'une vingtaine de plantes, qui poussent dans la region d'Essaouira. Il signala leurs justifications therapeutiques.

En 1995, Bibouche A. traita la legislation de la phytotherapie au Maroc. Il donna un bilan actuel de l'experience de la profession d'herboriste. Dans cette optique, il realisa une enquete aupres des herboristes et des pharmaciens delivrant les plantes medicinales. Il mena une etude juridique, en se basant sur les textes legislatifs et reglementaires en la matiere. Enfin, il donna des solutions, en vue de la reorganisation de la profession.

En 1995, Cherkaoui I. s'interessa a la toxicite chronique, et la toxicite aigue de *Herniaria hirsuta*, en

premiere partie, elle traita la botanique, la phytochimie et les activites biologiques de cette plante, en deuxieme partie, elle etudia la toxicite aigue de *Herniaria hirsuta*, par la determination de sa dose letale, elle trouva la DL 50 = 82 mg/kg par voie intraperitoniale chez la souris. Enfin, elle etudia la toxicite chronique de *Herniaria*, par l'evaluation de son eventuelle toxicite hematologique, renale, et hepatique chez les rats.

En 1995, Elabidi A. etudia l'activite analgesique des saponosides d'*Argania spinosa*. Pour cela, elle utilisa deux types de tests :

- test de Koster pour l'etude des analgesiques peripheriques.
- test Tailflick pour tester les effets analgesiques centraux.
- Enfin, elle signala la presence d'une activite analgesique peripherique des saponines d'*argania spinosa*, et absence d'une activite analgesique centrale.

En 1995, Louraiga A. a mene une etude experimentale des proprietes anti – diabetiques de *Nigella sativa* L. chez les meriones shawi, cette etude a concerne 30 meriones diabetiques, captures dans la region de Boulmane, et traites pendant une periode de 9 mois.

Il rapporta l'effet hypoglycemiant de la nigelle chez 37.7% des meriones tester, apres une administration d'une suspension aqueuse de nigelle 1g/kg et 2g/kg. Il nota aussi, un effet hypolipemiant marque par une baisse du cholesterol plasmatique de 21% et de 40% au bout de 3 mois. Enfin, il signala les actions metaboliques de la nigelle, dont un effet hypoglycemiant, un effet hypolipemiant, et un effet

hypoinsulinemiant sur meriones shawi.

En 1995, Louza B. effectua un travail sur les extraits vegetaux en cosmetologie. Elle mena une enquete sur les produits cosmetiques consommes a la ville de Casablanca en 1995, elle signala que l'achat de ces produits portent surtout sur les substances phytocosmetiques.

En 1995 Ben Cheikh N. a mene une etude toxicologique des saponines d'argania spinosa. Elle nota la presence d'une toxicite de ces substances vegetales par voie intraperitoniale DL 50 = 97mg/kg, et l'absence de cette toxicite par voie orale DL 50 = 1300mg/kg. Elle chercha les effets metaboliques chez la souris, d'une administration repetees des saponines a la dose de 200 mg/kg, elle trouve une augmentation de la creatinine sanguine et la diminution de la glycemie.

En 1995, Elbardi Z. etudia la phytotherapie en gynecologie a la ville de

Fes. Il realisa une enquete ethnobotanique aupres de 30 herboristes et 400, il montra les resultats suivants :

- 72% des patientes utilisent les plantes medicinales pour soigner les affections gynecologiques.
- l'utilisation des plantes est plus importante dans la tranche d'age 30 - 60 ans.

Il realisa une etude scientifique pour certaines plantes recensees, en precisant les proprietes pharmacologiques et toxicologiques.

Enfin, il donna les justifications therapeutiques des plantes utilisees en gynecologie.

En 1995, Guennoun M. traita les plantes medicinales utilisees pour traiter le diabete a la wilaya de Fes. Il mena une enquete selon ses resultats :

- 68% des individus utilisent les plantes medicinales pour un but therapeutiques.
- 46% des utilisateurs de la phytotherapie hypoglycemiante sont des femmes.
- 54% des utilisateurs sont des analphabetes.
- les plantes hypoglycemiantes les plus preconisees sont : le fenugrec 18%, la nigele 16.7%, l'olivier et l'eucalyptus 15.2%.

En 1996, Elharach J. effectua un travail sur la phytotherapie en O.R.L a la ville de Meknes. Dans ce cadre, elle mena une enquete ethnobotanique et formula les resultats suivants :

- 63% des sujets interroges utilisent les plantes pour traiter les affections de la sphere O.R.L, dont 58% de sexe feminin.
- 32% des utilisateurs de ces plantes sont des analphabetes.

la principale source d'approvisionnement en plantes reste l'herboriste. Elle termina son travail par une etude monographique, des plantes medicinales utilisees dans le traitement des affections touchant la sphere O.R.L, cette etude a permis de justifier leurs usages traditionnels.

En 1996, Esslimi R. traita le chardon a glu, c'est une plante toxique largement repandue dans le bassin mediterraneen . Il nota la composition chimique de la plante, surtout les heterosides toxiques, et son mecanisme d'action toxique, il signala les methodes analytiques

utilisees pour detecter et doser le principe toxique de cette plante. Il donna le tableau clinique de l'intoxication par le chardon a glu, ainsi le traitement symptomatiques des troubles causes par l'intoxication. Enfin, il termina son travail par une etude statistique d'un bilan de 15 annees et demi d'activite de centre anti-poison du Maroc du janvier 1980 au juin 1995, avec 153 cas d'intoxication dont 77 cas mortels.

En 1996, Khairi H. etudia la phytotherapie dans les affections cardio-vasculaires.

Il choisit 20 plantes possedant une action cardio-vasculaire qui sont utilisees pour traiter certaines affections comme: l'insuffisance cardiaque, l'angine de poitrine, l'arythmie, l'H.T.A, l'hemorragie, et les pathologies de la circulation sanguine. Il donna les monographies de ces plantes, ainsi il signala les recettes a base de plantes qui sont utilisees pour soigner les maladies cardio-vasculaires. Enfin, il presenta les justifications therapeutiques en precisant les mecanismes d'action de plantes a tropisme cardio-vasculaire.

En 1996, Agra. L. mena un travail sur la phytotherapie dans la region de Boulemane. Il effectua une enquete aupres de 300 personnes de cette region ; il releva les resultats suivants :

- 75% des individus utilisent la phytotherapie.
- l'utilisation des plantes medicinales occupe une place importante chez les personnes agees et du niveau socio-economique bas.
- les affections les plus traitees sont : rhumatismales et digestives.

- Enfin, il donna les justifications thérapeutiques des principales plantes.

En 1996, Boumatie R. étudia les plantes et les pratiques utilisées contre l'épilepsie dans la province d'Eljadida. Dans ce cadre, elle réalisa une enquête auprès de 600 personnes de la région, il formula ces résultats :

- 73% utilisent la phytothérapie, dont 70% de sexe féminin.
- 66% des individus utilisent la sorcellerie et la magie pour traiter l'épilepsie.

Enfin, elle cita les recettes à base de plantes et les pratiques utilisées pour traiter l'épilepsie.

En 1996, Aissati.A. étudia les plantes médicinales utilisées dans le traitement des affections rhumatismales à la wilaya de Meknes. Il mena une enquête ethnobotanique auprès de 25 herboristes et de 300 individus de la population de la wilaya de Meknes. L'enquête montra les résultats suivants :

- 66% des individus utilisent la phytothérapie.
- l'utilisation des plantes est importante dans la tranche d'âge comprise entre 30 – 50 ans.
- beaucoup de personnes ignore les plantes toxiques.

En 1996, Elfakir I. effectua une étude de la phytothérapie à la province

d'Errachidia. Dans ce cadre, il mena une enquête auprès de 300 personnes de niveaux socio-économiques différents. Les résultats montrent que :

- 81% des individus utilisent la phytothérapie dont 57.6% de sexe féminin.

- l'utilisation des plantes est importante à partir de l'âge de 50 ans.
- la source d'approvisionnement en remèdes traditionnels est dominée par les expériences des autres (63%).
- les plantes sont surtout utilisées pour traiter les affections digestives 38.2%, dermatologiques 19.2%, génitales 15.6%, respiratoires 12.1%, et rhumatismales 8%. Il établit les monographies des principales plantes recensées, et qui poussent dans la région de l'enquête. Enfin, il étudia les recettes recensées, et donna leurs justifications thérapeutiques.

En 1997, Elmouktafi A. mena une enquête ethnobotanique et ethnopharmacologique dans la province de Skhirat -Temara, auprès de 300 personnes de classes différentes. Il trouve les résultats suivants :

- 55% des individus utilisent les plantes dans un but thérapeutique.
- l'utilisation des plantes est importante à partir de l'âge de 25 ans.
- les utilisateurs des plantes médicinales sont 47% des analphabètes, 40% des primaires, 7% des secondaires, et 6% des supérieurs.
- les plantes sont souvent utilisées pour soigner les maladies digestives, 30% dermatiques, urinaires 15%, rhumatismales 7%.

Puis, il présenta une étude scientifique des différentes plantes recensées en précisant l'aspect botanique, chimique, et pharmacotoxicologique de ces plantes. Enfin, il donna les justifications

thérapeutiques des recettes recensées, et rapporta les propositions de l'O.M.S, dans le domaine de la phytothérapie.

En 1997, Khay A. étudia la pharmacologie et la toxicologie du cannabis il présente la monographie de cette plante, en précisant, la botanique, la répartition géographique, la composition chimique et les effets physiologiques. Il rapporta ses constituants chimiques, dont le plus important est le Tetrahydrocannabinol (T.C.H) et donna ses effets nerveux (hallucinations, agitations, Confusions et diminution de la mémoire). Il signala aussi les effets toxiques causés par l'inhalation chronique du T.C.H (atteinte pulmonaire, altération de l'immunité, oligospermie, une tachycardie et une foetotoxicité). Il précisa également que l'identification du T.C.H dans les liquides biologiques se fait par chromatographie liquide couplée à la spectrométrie de masse (HPLC-SM). Il rapporta aussi que le cannabis est la forme de toxicomanie la plus répandue dans le monde.

En 1997, Nadir Y. présenta une étude rétrospective portant sur 870 cas d'intoxications par les plantes médicinales marocaines (P.M.M), auprès de centre antipoison du Rabat, au cours de 15 années d'activité (1980–1995), il révéla les intoxications par les P.M.M occupent la 5ème après les envenimations, les médicaments, les pesticides, les aliments, les plantes représentent 84.4% de ces intoxications, la mortalité a été importante, 150 cas (17.24%), le chardon à glu est le produit le plus fréquent avec 153 cas, le chardon à glu la paraphénylène diamine, et la galle de Tamarix, sont les produits

les plus mortels, la circonstance de l'intoxication est essentiellement accidentelle chez les enfants de moins de 14 ans, 52.3%, la circonstance de l'intoxication par l'ADDAD est surtout accidentelle, 62.7%, elle concerne principalement les enfants, alors que celle par la paraphenylene et tamarix est essentiellement volontaire, 68.2% et 47.3%, la symptomatologie est donnée par des signes cliniques, 66.8% digestifs et 40% neurologique et le traitement est surtout épuratif 67% et symptomatique 52%. Au terme de son travail, il signala quelques mesures preventives capables de limiter le taux d'intoxications par les P.M.M.

En 1997, Amraoui M. etudia l'ail et son usage medicinale, dans le cadre d'une etude de la pharmacopee traditionnelle marocaine, il realisa une enquete ethnobotanique sur

cette plante, aupres de 400 personnes de la ville de Oujda, a la lumiere de l'enquete, il trouva que 100% des individus utilisent l'ail aussi bien dans le domaine medical que dans le domaine culinaire, 63% des utilisateurs sont de sexe feminin, 43% des utilisateurs sont des analphabetes, 55% des utilisateurs sont ages de plus de 40 ans. Ensuite il etudia la plante en precisant sa botanique, sa composition chimique, ses proprietes pharmacologiques et sa toxicite. Enfin il donna les recettes utilisees en phytotherapie contenant l'ail, et rapporta les justifications et les usages therapeutiques de cette plante.

En 1997, Limni A. mena une etude experimentale du pouvoir desinfectant de l'huile essentielle de *Lippia adoensis* (plante aromatique de la famille des verbenacees, repondue en Afrique de l'Ouest), vis-a-vis de

quatre bacteries multi-resistantes responsables d'infections hospitalieres, il s'agit de : *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Staphylococcus aureus*, et *Bacillus subtilis*, il utilisa deux methodes.

En 1997, Kamal A. etudia la phytotherapie dans la region de Taounate. Il mena une enquete ethnobotanique aupres de 250 personnes. les resultats de l'enquete montrent que 78% des personnes interrogees, ont recours a la phytotherapie., l'utilisation des plantes medicinales occupe une place importante chez les personnes agees et du niveau socio-economiques bas, les affections digestives et rhumatismales sont les plus traitees. Enfin, il donna les justifications therapeutiques et les utilisations des recettes a base de plantes medicinales.

Country News

Some recent Italian initiatives

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In the last few years, there has been a flowering of initiatives in the field of conservation and appraisal of national biological resources in Italy. A new element is the fact that for the first time the coordination or the promotion of these actions is up to local authorities and Non-Governmental Organizations (NGOs). These initiatives often involve also academic or research institutions. It is very interesting to notice that the interest in the conservation and assessment of Italian biodiversity is slowly abandoning a mere academic framework and is involving local authorities, schools and common people. The following paragraphs will give an overview of some initiatives that appear of particular interest.

The **System of Botanical Gardens of the Lucca Province** (Tuscany) is formed by three structures. The **Lucca Botanical Garden** conserves some of the rarest plant species of the province, and in particular some typical species of the swamp areas, such as *Osmunda regalis*, *Euphorbia palustris*, *Hibiscus palustris*, etc. The **Thematic Garden 'Pania di Corfino'** stores examples of the typical flora of the Northern Apennines. The many introductions include *Primula apennina*, *Swertia perennis*, *Trolius europaeus*, *Paeonia officinalis*, *Lilium martagon*, etc. The **Didactic Park of Forte dei Marmi** hosts coastal flora characteristic of the area

(*Eryngium maritimum*, *Echinophora spinosa*, *Pancreatium maritimum*, etc.).

The authorities believe that the 'System of Botanical Gardens' initiative will:

- diffuse knowledge about the local vegetation and its interaction with the territory;
- educate people to the love of plants and natural resources in general;
- promote didactic activities within the Gardens or in their surroundings, to provide an operational and practical response to the initiative itself.

The **Autonomous Province of Trento** (Trentino-Alto Adige) organizes courses, seminars, visits and workshops, with special reference to the environmental sector, in close interaction with other entities such as universities, schools and private associations. The training activity is mainly devoted to all school levels and post-university education, and consists essentially of activities aimed at a better understanding of the alpine environment and ecosystems, and the local culture associated with it. The Province intends to increase this type of activity in the near future, also taking into account tourism aspects, linked to an improved knowledge of the special characteristics of the alpine environments.

In September 1997 the '**Centre for studies and documentation of the Ustica Island**' (Sicily) was established with the aim of conserving and giving importance to the natural, historical and cultural

resources of this island. Due to its historical background and to its geographical isolation, this island represents a unique entity in the Mediterranean Sea. The President of the Centre, Franco Foresta Martin, has stated that '... the Ustica Island represents an ideal site for the preservation of biodiversity', and the centre has a programme public events, publications and didactic initiatives to promote the special mixture of history, knowledge and diversity represented by the island.

The **Agro-environmental Observatory** is an organism promoted by the Province of Forlì-Cesena, and by the communities of Forlì and Cesena (Emilia-Romagna), and is aimed at the study and promotion of the ecological conversion of agroenvironments. Since 1990, the Observatory supports among the others studies and research on the effects of intensive agriculture on the biological resources of agroenvironments. Special attention is paid to the conservation and promotion of traditional fencing species and of biological elements of the rural landscape.

Another activity of the Observatory is to support and promote organic agriculture, which is achieved through the dissemination thorough conferences, seminars, etc. of the experimental data available at the national level. A newsletter **AGRIDOC** examines and presents a synthesis of the most relevant articles on this topic that have appeared in the specialized national literature.

During June 1998, at Modena (Emilia-Romagna), the **First National Convention of Environmental Volunteers** organized by the **'Federation of voluntary ecological guards'** will take place. This is a NGO aimed to the protection of the environment. Round tables and meetings are scheduled for promoting environmental control, gaining a better interaction between volunteers and public institutions, and rising public awareness on the necessity of conserving biodiversity.

Besides the associations of volunteers, many local authorities and institutions have become associated with this initiative, as well as cooperatives and societies acting in the field of environmental rescue and organic production. The expected result is an increased cooperation between Public Administration and NGOs through the development of common projects.

'Conciliation between Man and Nature and protection of biodiversity as an ethical, political and scientific value' is the title of a training course for teachers of all levels in public schools organized by the Ministry of Public Instruction and the study council of the Province of Padua (Veneto) in cooperation with an animalist NGO. The course is

organized in 36 hours of seminars on environmental themes and focuses on a 'better relationship between humans and other species' as a source of 'personal and social benefit' and the recovery of a connection with nature that is almost completely lost in the urban environment.

'Parks, Italian prosperity' was the theme of a conference held during September 1997 in Rome. This was the first organic conference of the Italian natural protected areas. Representative of most Italian national and regional parks were brought together to exchange experiences; the delegates concluded that the best results are achieved when the local authorities, and in particular regional ones, are directly responsible for protection measures. This represents a reversal of the formerly held view that the National Government should be responsible for protection policies.

Coordination of the national parks, associating 102 protected areas has been instituted and a telematic network 'Parks in Italy' is being established and already is partially active. The discussion has been carried on with a series of regional meetings scheduled through the rest of 1997.

Starting 1995 the **Annual meeting on Biodiversity**, promoted by the

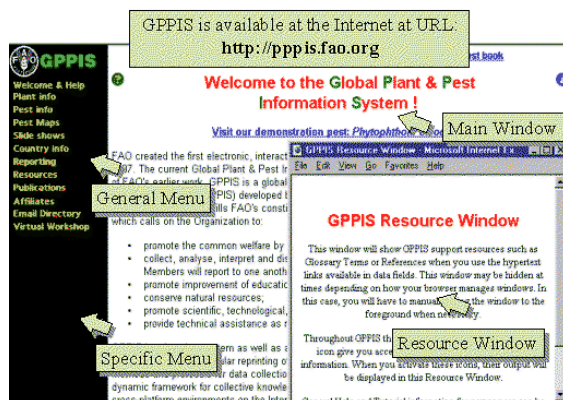
Inter-university Centre for Research, Conservation and Utilization of Mediterranean Germplasm, has examined themes related to Mediterranean crop species. The Centre is an organisation that promotes coordination of the initiatives of the Faculties of Agriculture teaching genetic resources. The 1997 meeting was held in Reggio Calabria and the next one will be held in Alghero (Sardinia) during September 1998. The theme of the 1998 meeting will be 'Local germplasm and its appreciation'.

In conclusion, it is very interesting to note that local authorities take many initiatives in tight connection with NGOs. This represents a real novelty, since until a few years ago the themes of nature conservation and usefulness to humans were discussed within the limits of the academic sector or of animalist or environmental associations. It appears clearly from some initiatives that the level of discussion is moving to schools and local authorities. This implies that wider areas of the population become aware, and involved into, the themes of nature conservation as a resource for future generations. Some actions, like the establishment of telematic networks appear to stimulate the spread of public interest in these arguments.

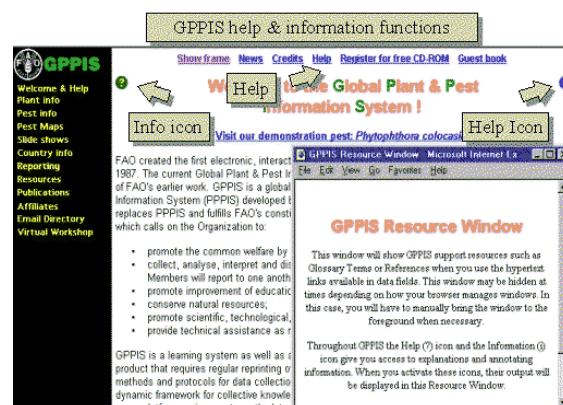
News from FAO

Welcome as plant Editor for the Global Plant & Pest Information System

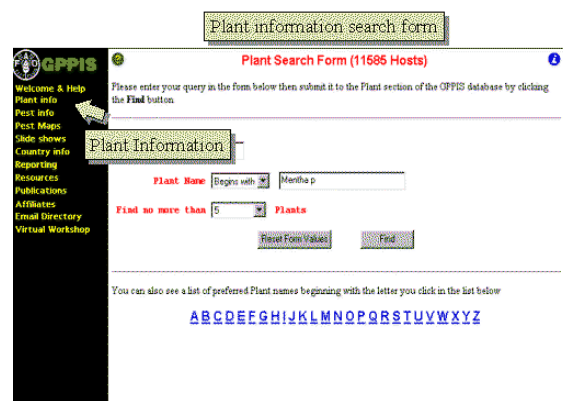
All screens and functions in the Global Plant & Pest Information System (GPPIS) have both help and information pages attached and the program is easy to use. However, to make the start easier, this manual will take you through the basic functions of the program. The Manual is written as a general overview with information on **specific functions in bold**. The GPPIS is available at the Internet at URL: <http://pppis.fao.org>



As the **GPPIS Home Page** opens, note that there are two screens available; the **Main window** and the **GPPIS Resource window**. If the Resource window is not visible use <Alt> + <Tab> or re-size the Main window to see it. Note that the Main window is divided into three areas; the Main window to the right, a **Main menu** at the top left and a **Specific menu** bottom left. The latter is not active for this page. The program opens default at the Welcome & Help page, the first item in the Main menu.

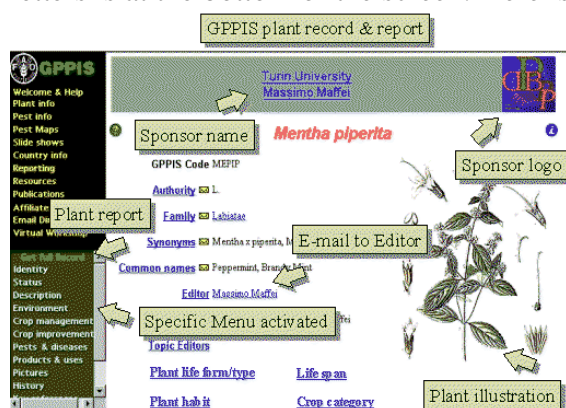


As an Editor, you will need to know **about Preparing Data for Submission** and about your **Editor's Responsibilities**. Activating **Help** at the top of the Home Page will bring GPPIS methodology in the Resource window with this information. Activating the **help icon** "?" and **information icon** "i" will activate respectively help and information pages in the Resource window. These functions are available in all pages in the system. If you wish more information on any of the functions mentioned, then active the icons in the appropriate page.



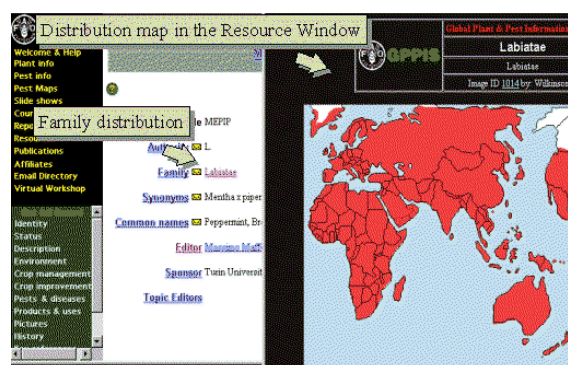
The second item in the Main menu is **Plant Info**. Select Plant Info and select the plant species you are editing among the 11030 species in the system. Choose; Begins with; Matches; or Contains. Type part or all of the preferred scientific or common name and specify the number of species you wish to have listed. Then activate <Find>. If you have specified the species precisely you will be taken straight to the species record, if you have only specified e.g. the genus, you will see a list of species, choose your species from there. It is also possible to

activate the first letter in the preferred and then scroll to find the species. The row of first letters is at the bottom of the screen. Here is as an example chosen Mentha.



The Specific menu item Identity opens as default when a plant record is selected. The species Mentha piperita is sponsored by Turin University and edited by Mr. Massimo Maffei. The species you edit will carry your name and **sponsor logo**. You need to provide the system Supervisor with the desired logo. The logo should be an image about 20x20 pixels in GIF format. You can send it as an e-mail attachment. Remember to carefully identify the species for which the logo should be entered. Activating the band at the top of the screen will link to the home page of the sponsor in this case Turin University. Activating the Editor name at the bottom of the screen will activate e-mail form to the Editor. **The plant illustration in the Identity page** is usually a black and white drawing, 100 pixels wide and about 5-13 Kbytes.

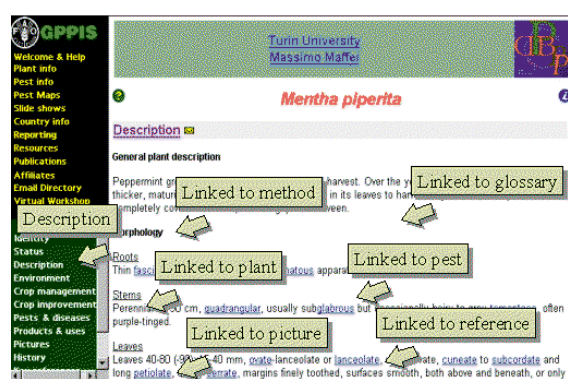
Activating the Family name under the Specific menu heading Identity will bring a world distribution map for the family in the Resource window. In addition, the source of the map is mentioned. Note that the Specific menu for the plant records at the bottom left has appeared. Activate any of the menu items and the appropriate page will appear in the Main window. The menu as well as the main and sub headings of the plant records is described in the appendix. Activate **Full record at the top of the Specific menu**, click <print> and the program prints a full report on the selected species.



If you wish to **enter or edit information**, activate the desired record heading. If you have not yet entered your name and password, you will be prompted to do so. The program then changes to **editing mode**, your password will remain active until you close the program and you can enter the changes you wish. To save time at the Internet, it is a good idea to write and format you text beforehand in a word processing program and then copy and past into your plant record.



In the text a number of terms are underlined, activating one of these will connect to a glossary term, a picture or an illustrations, a plant or pest record, a description of a method or a reference. Note that the activated links will be displayed in the Resource window.



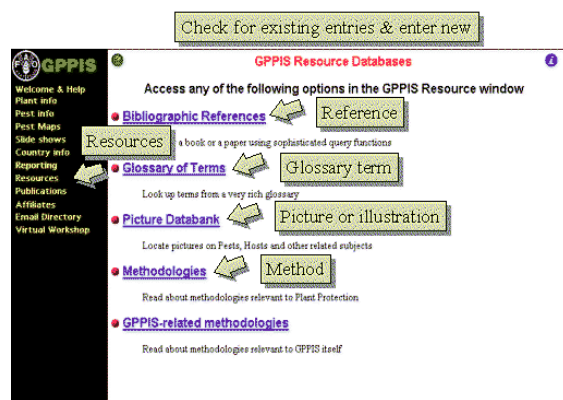
In the editing mode, these links will appear as shown below:

[[fasciculated]G6677], **G**: Glossary, code 6677; [[Inflorescence]I1179], **I**: Illustration; [[Lupinus mutabilis]Hlumut], **H**: Host, code LUMUT; [[Labdia saliens]Plasal], **P**: pest, code LASAL; [[ELISA]M38], **M**: Methodology and [[Gill HB 1992]R86330], **R**: Reference.

The five letters of the **plant and pest codes**, e.g. LUMUT, are composed of the two first letters of the genus name and the first three letters of the specific epithet, unless this code already is used. In that case, the last two letters are substituted by a two number code.

There are at present about 11000 plants, 9000 pests, 485700 references, and 25400 glossary terms, 1600 pictures and 70 methodologies described in the program. **To create a link to an existing entry** you enter soft brackets around the term you wish to link. E.g. to link “fasciculated” to the glossary {{fasciculated}}. Glossary links are default therefore, you do not need a specifying letter between the two last soft brackets. For other links you have to specify the link type with; {{Lupinus mutabilis}H} for Host, **P** for Pest, **M** for Methodology and **R** for Reference. It is usually not possible to link pictures and illustrations in this way. For these, you need to know the appropriate code. Codes for existing pictures you can find under Main menu item Resources - Pictures Databank. Note that all glossary term are entered in singular. Therefore, if you wish to link “spikes” to the glossary, then enter the bracket before the “s”, as {{spike}}s. Later when the program has created the link, you can enter the “s” within the square brackets as [[spikes]G16214]. In this way, if you e.g. are using underlining to indicate links, the whole term spikes will be underlined instead of only spikes.

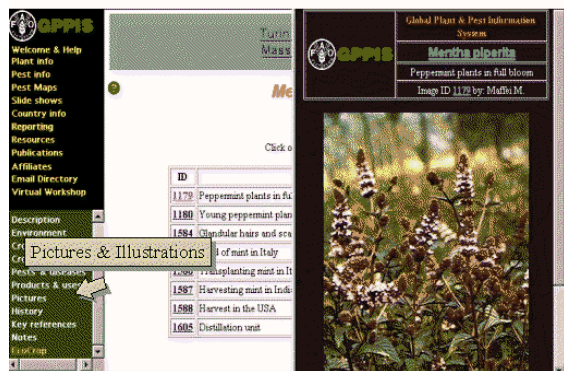
Then activate the submit button at the bottom of the screen. The links created will now be displayed in the text and in the edit mode they will have square brackets e.g. [[Labdia saliens]Plasal]. Links not found will still be displayed with soft brackets {{pearmillet}}.



If the program could not find the desired link, then you will have to **enter a new Reference, Glossary term or Method**. Activate Main menu item Resources and activate the type of entry you wish to perform. Check first if the entry already exists. Describe your entry and submit the search. If the entry is not found, then activate linked Term or click here reserved for Editors and describe your entry as prompted on the screen and submit. If you note the code that the entry receives, then you can use it directly in

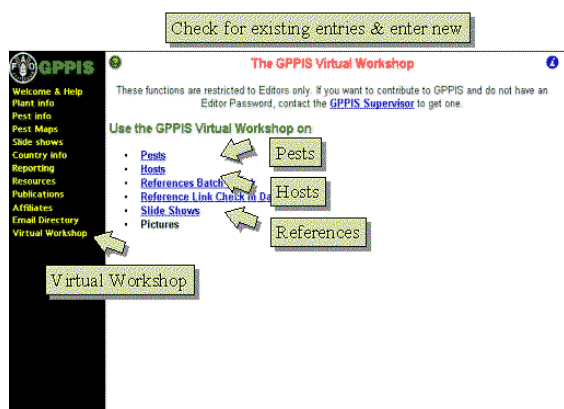
square brackets in the editing mode. If not you can go back to the text entry and submit the desired links again with {{soft brackets}}.

Under Resources, it is also possible to **edit already existing entries**. Activate the type of entry you wish to edit; identify the desired entry; find the search result in the Resource window; activate Edit; make your corrections and submit the changes.



If you wish to **enter a picture or an illustration**, the procedure is a little different. It can be done either from the Main menu item Resources like above and activate the picture databank, or from the Specific menu item Pictures. Check first if a similar entry already exists. If not, activate [click here](#) at the top of the screen, then describe your entry as prompted on the screen and submit. The program will then return a code for your picture. Use that code as the name for the picture you wish to enter. Send

the picture, named as the code, as an e-mail attachment to the program Supervisor. Pictures and illustrations can be submitted in GIF or JPG format with a width of up to 500 pixels.



Instead of identifying entries and their codes one by one, you may wish to **check a whole list of Pest, Hosts or References** at the same time. Activate Main menu item Virtual Workshop and activate the type of entries you wish to check. Describe your entries; pest and host names with full-preferred name, both genus and the specific epithet and references as e.g. Smith JP 1981. Then submit the search.

If you have search for references your search result may look like this:

no author	<u>Smalter J 1998</u>	000000
found	<u>Hart D 1995</u>	276705

(No author: no references with the mentioned Author found; found: references with Author found). If you activate one of the found references the full description of all references with the mentioned Author will appear in the Resource window. Search to see if the desired reference is there.

If you have search for Pests or Plants your search result may look like this:

Not found		Lupinus aquatica
Found	LUMUT	Lupinus
	mutabilis	

Instead of entering references, one by one you can **enter a whole list of references**. When you have made sure than non of the references are in the system, then format the list as shown below and send it as an e-mail attachment to the program Supervisor.

Ref. code	Author(s)	Year	Title	Source
000000	Schneider O, Hartmann P, Petter DA	1996	Relationship between tree ring width and crown transparency of spruce	Dendrochronologia No. 6, 9-31; 41 ref.
000000	Chappelle EW, Williams DL	1994	Laser-induced fluorescence (LIF) from plant foliage.	IEEE Transactions on Geoscience and Remote Sensing GE-25: 6, 726-736;25 ref.

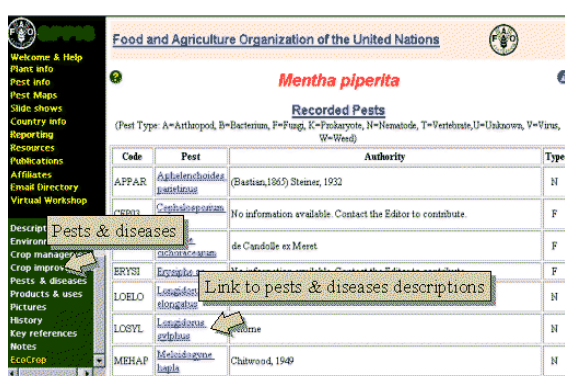
You may wish to **enter Pictures and Key references in the plant record** once the code for these have been identified. Activate respectively Specific menu items Pictures or Key references then enter the desired codes. Note one code per line as:

For References

34589
672509
743091

For Pictures

lumut001
lumut002
lumut003



Under the heading Pests & diseases in the Specific menu, there is a list of pests & diseases associated with the plant species. Activating one of the names in the list will change the system to the pest side, with descriptions of the individual pests similar to the descriptions of the plant species. Use the Netscape function <Back> to return to the plant description. If you wish to **enter a new pest for the species**, then activate recorded pests and enter the code for the desired pests or diseases.



Under the **Main menu, heading Affiliates** is a list of Internet sites associated with GPPIS. This is a service for interest groups, that finds it useful to associate their work with FAO but that do not have the capacity to operate their own Internet service. Activating Affiliates will bring a list of the affiliated home pages. GPPIS works as a server for these sites. In this case the site “the International Center for Underutilized Crops (ICUC)” is opened and the GPPIS Main menu functions are active. It is also possible to open

these sites independent of GPPIS through their individual URL’s. In that case the site will appear without the GPPIS menu and can be operated as any other Internet site. If you are interested in participating in the affiliates program, then contact the program Supervisor.

We would appreciate any comments or new idea’s you may have to the structure of GPPIS, or to the information on the plant species. Your contribution will be acknowledged and please note that a sponsorship do not carry any economical obligations. Please address any comments or request to Mr. Peter Griffée, E-mail: peter.griffée@fao.org, Telephone +39.06.570.56763, or Address: FAO, room C782, Viale delle Terme di Caracalla 00100 Rome, Italy.

News and notes

The Artemis project after 25 years

The Artemis Project started in 1973 and has been functioning continuously since then. Its original working idea was to extend the use of a seed preservation method previously designed (in 1966) for a collection of wild crucifers to the *ex situ* conservation of threatened and endemic taxa of any family. Its geographic scope include Iberian endemics (Spain and/or Portugal) and endemic plants of Balearic and Macaronesian islands. Also plants with Ibero-Mauritanian and Pyrenean distributions have often been collected.

The rate of collection has been uneven over the years – obviously decreasing as more and more samples were being stored. But as it is shown in the figure, there was no cessation. Some 1,700 samples are now preserved in the seed bank. The number of taxa is somewhat smaller (1,500) since occasionally in order to obtain some infraspecific variability more than one sample was obtained. An end to the project may be still far ahead because the number of taxa meeting the previously defined conditions is estimated at some 2,500.

Years	Accessions
1973–1975	418
1975–1980	629
1980–1985	256
1985–1990	127
1990–1995	73
Total	1611

A considerable number of accessions has been duplicated in the seed banks of the botanic gardens of Cordoba and Las Palmas.

The seed preservation method used has proved to be very efficient after

germination tests made on crucifer samples that were 25 and 30 years old. It was shown that germination was higher than in the original tests, probably because of some initial dormancy which declines during storage.

Although the project has been largely conceived as a 'black box' collection, i.e. just aimed at preserving genetic material for the future, some actions have been undertaken recently to establish an 'active' collection with those accessions where the amount of seed was sufficient. A list will be produced for use by specialists.

Attempts to extend the project to the whole of the Mediterranean have met with financial difficulties in the past so that only some collections were made in Sicily and Greece. However, similar projects are now under way in association with the seed banks of wild species of Palermo botanic garden (Italy), the Conservatoire National Mediterranéen of Porquerolles (France), Patras (Greece) and the seed collection project of Turkish endemics coordinated by Prof. Tuna Ekim of Gazi University in Ankara under the joint sponsorship of TUBITAK (Turkish Scientific and Technical Research Council) and the State Planning Organization (DPT), involving 28 botanists from 12 universities and several seed banks.

Even when priorities have been selected according to the risk of extinction, it has been observed that in certain cases, the species have an economic value such as *Artemisia granatensis*, an emblematic endemic from Sierra Nevada (Spain), that

was formerly highly prized as an infusion (manzanilla real), *Coincya rupestris* from southern Spain that was collected as a mustard and *Silene hifacensis* that is now used as an ornamental.

Contact address:

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E-28040 Madrid, Spain

Sierra Nevada to become National Park

Legislation is being passed through the Spanish National Parliament to declare the upper zone of Sierra Nevada, Spain, a National Park. This National Park will be unusual in that it is located within an existing Natural Park (Parque Natural de Sierra Nevada). The importance of this new Park lies in the rich biological diversity that is found there, not to mention the diverse landscapes and its geomorphological peculiarities. Sierra Nevada is home to a large proportion of the endemic flora of Spain and the existing Parque Natural houses 65 of the 181 taxa that are included in the regional catalogue of threatened wild plants, including the rare and endangered *Artemisia granatensis* that is highly prized as a herbal tea.

New Conservateur for Porquerolles

The appointment of Dr Francois Boillot as Conservateur of the Conservatoire botanique national méditerranéen de Porquerolles, France has just been announced. He succeeds Dr J.-P. Henry who is taking up another post.

Literature reviews

BOOKS

Barakat, Hala N. and Hegazy, Ahmad K. (Eds). *Reviews in Ecology. Desert Conservation and Development*. UNESCO, IDRC and South Valley University, Egypt. Cairo. 1997. Pp. 331. ISBN: 977 -19-3773-1. No price indicated.

This volume is a collection of essays written by colleagues and students of Professor Mohamed Kassas, the renowned Egyptian ecologist. There is a foreword by Mostafa Tolba, the former recently the Executive Director of UNEP, who was his senior in Cairo University by a year and an introduction by the editors that includes a brief account of the life and achievements of Kassas.

The first paper, by Michel Batisse, also traces the career of Kassas in the postwar period at a time when issues such as conservation and resource management were beginning to be addressed seriously, including his role in the development of IUCN, culminating in his term of office as President from 1978–1984. Other members of the distinguished cast of authors are M.S. Swaminathan (also to be President of IUCN later), Nicholas Polunin, Gilbert White, I. Nahal, S. Ghabbour, Henri Le Houerou, Lofty Boulus, A.K. Hegazy and J.L. Cloudsley-Thompson. The topics covered are mainly on the ecology, conservation and sustainable use of arid lands and the book is a useful compilation of up-to-date information on these topics.

V.H. Heywood

Oldfield, S., Lusty, C. and MacKinnon, A. (Eds). *The World List of Threatened Trees*. World Conservation Press, Cambridge, UK. 1998. Pp. 650. ISBN 1 899628 10 X

The world's tree flora is estimated at around 100 000 species, so that more than one in three flowering plants is a tree. This volume is a result of a three-year project financed by the Netherlands government on the conservation and sustainable management of trees. It was carried out by a team based at the World Conservation Monitoring Centre (WCMC), Cambridge, UK, with the cooperation of consultants and reviewers. It consists of a catalogue of the world's threatened trees, giving for each taxon the botanical name, IUCN Red List category and criteria, distribution, conservation summary, the identity of the assessor and references.

Altogether 8753 trees are globally threatened, with 77 recorded as extinct, 18 extinct in the wild, 976 critically endangered, 1319 endangered and 3609 vulnerable. Species listed from the MEDUSA region include *Abies cephalonica*, *A. nebrodensis*, *A. pinsapo*, *Cedrus brevifolia*, *C. libani*, *Cupressus atlantica*, *Phoenix theophrasti*, *Pinus nigra* subsp. *dalmatica*, *P. peuce*, *Prunus ramburii*, *Quercus cerroides*, *Quercus petraea* subsp. *huguetiana*.

This is a valuable and impressive compilation that will draw attention to the fate of the world's tree flora unless conservation action is taken for many of the species listed. As the editors state, this list should be used, above all, to develop conservation action on the ground.

It is a useful complement to the recently published *1997 IUCN Red List of Threatened Plants* (see review below).

V.H. Heywood

Walter, K. and Gillett, H. (Eds). *1997 IUCN Red List of Threatened Plants*. Compiled by the World Conservation Monitoring Centre. IUCN–The World Conservation Union, Gland Switzerland and Cambridge, UK. 1998. Pp. 862. Price: GBP 30, US\$ 45. ISBN

This compilation by the World Conservation Monitoring Centre in Cambridge, UK is the first ever comprehensive listing of threatened plants on a global scale and represents the results of more than 20 years work by botanists and conservationists around the world. Of the species assessed for this Red List, nearly 34 000 taxa are considered threatened on a global level. This represents 12.5% of the world's estimated 270 000 species of vascular plants. The volume follows the old IUCN categories of threat, not the recently introduced new system of categorization. 380 plant species are recorded as having become extinct in the wild, 371 are listed as extinct or endangered, and a further 6522 are listed as endangered. The majority are vulnerable, rare or of indeterminate status.

This is a valuable work in that it represents the best factual assessment we have of how many species have become globally extinct and how many are threatened with imminent extinction unless appropriate action is taken to

control or remove the threats. It should be noted that the Red List does not and cannot record those extinctions that may have taken place about which we have no knowledge, and that the Red List shows a distinctly regional bias with comprehensive assessments from Europe, North America, Australia and southern Africa but incomplete coverage of Asia, the Caribbean, South America and the rest of Africa. However sobering the figures are, they are a far cry from the projected levels of extinction that have been suggested by some conservationists. What we now need to do is to extend the assessment as widely as possible in the poorly covered areas of the world, continue to monitor the position of those species that have been identified as being at risk, and of course undertake conservation action on as broad a scale as possible.

V.H. Heywood

Masted, N., Ford-Lloyd, B.V. and Hawkes, J.G. (Eds.) *Plant Genetic Resource Conservation: The *in situ* approach*. Chapman & Hall, London. 1997. Pp.446. ISBN 0 412 63400 7 (Hb) 1 412 63730 8 (Pb).

This book edited multi-author volume provides a useful guide to the complex issues and procedures involved in the *in situ* conservation of plant genetic resources. It is a paradigm of conservation that it is best undertaken in the wild, although this is often interpreted as meaning the adoption of an 'ecosystem approach' whereas *in situ* covers also the conservation of species' populations within ecosystems. In an agricultural genetic resource context, *in situ* often refers to *on-farm* conservation

of landraces or the conservation of pre-domesticated species in home gardens and similar situations. Another field that is attracting attention is the conservation of wild relatives of crops, mainly *in situ*.

The issues involved are highly complex, as the various contributions to this volume will attest, and practical experience is very limited. One of the best examples of *in situ* genetic conservation is the so-called Ammiad experiment for the conservation of populations of emmer wheat in Israel and an account is given of this 10-year study. A paper is also included on the GEF-supported project for the *in situ* conservation of genetic diversity of various crops in Turkey. Other topics covered are the selection of target taxa, reserve design, management and monitoring, and conservation of genetic resources of trees, and the book concludes with a practical model for *in situ* genetic conservation and a look towards the future.

The book is recommended as a useful introduction to an area of conservation that is rapidly gaining importance.

V.H. Heywood

Posey, D.A. & G. Duffield. *Beyond Intellectual Property Rights: Toward International Resource Rights for Indigenous Peoples and Local Communities* IDRC, Ottawa. 1996. Pp. 303 .

For a long time, the issue of intellectual property rights of local peoples and communities has largely been ignored and bypassed, and only recently, with the international acknowledgment of their position by

the United Nations 'Year of the Indigenous Peoples', renewed attention is being paid to indigenous peoples traditional resources and intellectual property rights. Local knowledge has freely been appropriated by both the state and private organizations in the form of trademarks, copyrights and patents on natural components, processes and products, based on indigenous knowledge, particularly in the field of medicinal plants and herbs. Although several international agreements and conventions have been formulated, they still prove to be elusive for most communities involved.

This book provides in a handy 'question-and-answer' mode practical advice as to how both indigenous communities as well as scientists, managers and experts should deal with the complex issues involved.

After the introduction on 'who visits local communities and why', the value of indigenous knowledge and the significance of 'compensation' are dealt with, as well as the violations of local rights. In addition, the book offers a clear overview of options and possibilities for legal action, contracts and the development of a system of protection of traditional resource rights.

Given the recent mushrooming of international agreements, covenants, conventions, declarations and codes of conduct, the strength of this book emerges in the excellent overview that is presented in this context, and the answers it provides to relevant questions concerning matters such as the usefulness of 'soft law' and legally binding agreements, and the creative strategies that have been

developed. Particularly illustrative are the many 'boxes' which contain appropriate texts, case studies and examples from protocols, action programmes and networks.

The book concludes with a final chapter on how to arrive at protection, compensation and community development that has implications for both researchers and the 'researched' around the globe. Particularly helpful are the list of people and organizations, the E-mail links, and the World-Wide Web addresses, while a useful 'annotated bibliography' is presented of 207 relevant publications.

The relevance of the book for the MEDUSA Network emerges especially in the general guidelines for the protection and compensation of local knowledge and resources that still are to be documented, studied and analysed within the framework of wild plant research programmes to be executed by the FPC's in the member countries. Indeed, in order to achieve truly participatory and collaborative research with the local communities in this region, it is necessary to respect the local natural, cultural and spiritual rights, and ensure the peoples' equitable participation in all stages of the research. In this respect, the authors have managed to provide a manual that paves the way to eventually establish reciprocity to bridge the gap between indigenous peoples and outsiders/researchers, and as such contribute to the synthezation of local and global knowledge systems for the benefit of all participants involved.

L.J. Slikkerveer

Frese, L., Panella, L., Srivastava, H.M. and Lange, W. (Eds) *International Beta Genetic Resources Network. A report on the 4th International Beta Genetic Resources Workshop and World Beta Network Conference held at the Aegean Agricultural Research Institute, Izmir, Turkey, 28 February – 3 March 1996.* International; Crop Network Series 12, IPGRI, Rome. 1998. ISBN 92-9043-368-X.

This report of the fourth meeting of the World *Beta* Network contains a number of papers that may be of interest to MEDUSA readers, such as a proposal for a new classification of the cultivated forms of beet, variation in developmental characters in *Beta vulgaris* subsp. *maritima* in relation to latitude, and an evaluation of some Egyptian wild types of beet. The report forms part of the IPGRI International Crop Network series.

Padulosi, S. (Ed) *Oregano. Promoting the conservation and use of underutilized and neglected crops. 14. Proceedings of the IPGRI International Workshop on Oregano, 8212 May 2986, CIHEAM, Valenzano, (Bari), Italy.* Institute of Plant Genetics and Crop Plant Research, Gatersleben/IPGRI, Rome. 1997. Pp. 176. ISBN 92-9043-317-5

Oregano is one of the world's most commonly used herbs. This volume in IPGRI's excellent underutilized and neglected crops series provides a valuable account of various aspects of this still underutilized group of species. The volume begins with a review of taxonomy and distribution of the genus *Origanum* followed by an assessment of oregano species in national and international collections and an account of traditional uses and production in Greece. Other papers deal with biology, agronomy

and processing, cultivation and use in Europe and North Africa, marketing and commercial production, and international cooperation.

Although it is by no means exhaustive, this is an essential reference work for anyone interested in oregano. Research on all aspects of this group continues to be published and I hope that IPGRI will consider organizing another meeting before long to bring some of the results together again.

V.H. Heywood

Battle, I. and Tous, J. *Carob tree Ceratonia siliqua L. Promoting the conservation and use of underutilized and neglected crops. 17.* Institute of Plant Genetics and Crop Plant Research, Gatersleben/IPGRI, Rome. 1998. Pp. 92. ISBN 92-9043-328-X.

The carob tree, *Ceratonia siliqua*, is one of the most characteristic species of the Mediterranean – both in the evergreen sclerophyllous scrubland vegetation alliance that bears its name (*Oleo-Ceratonion*) and as a tree that has been cultivated since ancient times. As a crop it has been remarkably neglected in terms of agronomy and research and development and this booklet provides a valuable introduction to the problems of promoting its development. It covers taxonomy, reproductive biology, origins and centres of diversity, properties and uses, genetic resources, genetic improvement, production areas, ecology, agronomy limitations and prospects. As it noted in the section Research needs, centuries of carob cultivation have given rise to a number of cultivars differing in agronomic characteristics, and large natural populations still remain

untouched in countries such as Turkey and Morocco. Yet knowledge of existing cultivars in the Mediterranean region is poor.

This is an important addition to the underutilized and neglected crop series that is a joint project between IPGRI and the Institute of Plant Genetics and Crop Research, Gatersleben (IPK).

V.H.Heywood

N. Ozhatay, K. Kyuncu, Atay, S. & Byfield, A. *The Wild Medicinal Plant Trade in Turkey*. Dogal Hayati Koruma Dernegi, Istanbul. 1997. Pp. 111. No ISBN cited.

N. Ozhatay, K. Kyuncu, Atay, S. & Byfield, A. *Tukeyenin Dogal Tibbi Bitkilerinin Ticareti Hakkinda Bir Calisma* 1997. Pp. 121. Dogal Hayati Koruma Dernegi, Istanbul. ISBN 975 96081 9 7

This important volume is a project report on Turkey's trade in medicinal plants. The original edition in Turkish contains numerous illustrations, mostly in colour, that are lacking in the English-language edition. It contains information on medicinal and aromatic vascular plants collected from natural habitats for internal and international trade, together with conservation recommendations.

The work was undertaken as a partnership project between Dogal Hayati Koruma Dernegi, (DHKD/the Society for the Protection of Nature), Ankara University (Department of Pharmaceutical Botany) and Istanbul University (Department of Pharmaceutical Botany) in Turkey and the UK-based Fauna and Flora

International. It is based on information gathered by interviewing collectors, middlemen and export traders, government and customs officials, scientists and literature sources.

The authors note that wild collected medicinal plants fall into two basic categories: those that are collected for local/traditional use and those that are commercially traded both in the country and for export. It is the latter that pose the greater threat to the survival of wild populations. The report finds that the wild collection of a relatively large number of species must be regarded as sustainable but the majority of species probably should be regarded as Vulnerable or Data Deficient, following the new IUCN Categories of Threat.

It lists, as annexes, the 346 traded Turkish taxa; the five most traded 'species' (*Ceratonia siliqua*, Kekik which comprises in fact different genera and species of *Labiatae* containing thymol and kavrakol, *Capparis* spp., *Laurus nobilis* and *Glycyrrhiza glabra*); and illustrative examples of three commodity groups traded under the 'miscellaneous category' (i.e. those not given their own commodity export statistic codes) /that represents the biggest element of the overall trade. It also lists the top 50 most threatened medicinal plants (as Fig. 21) and the top ten (Fig. 22).

The report makes a series of recommendations for conservation of these plants, including research needs, regulatory policies, legislation and monitoring, protected areas,

propagation and cultivation, and education and public awareness.

This report deserves to be read widely and is a model of presentation.

V.H.Heywood

NEWSLETTERS

NUCIS Newsletter –Bulletin of the Research Network on Nuts (FAO–CIHEAM)

The latest (6th) issue of this Newsletter contains several articles of interest to the MEDUSA Network. These include a paper on nut production and trade in Italy, the current status and prospects of the stone pine (*Pinus pinea*) in Andalusia, Spain and another on the current situation and possibilities of development of the carob (*Ceratonia siliqua*) in the Mediterranean region that covers production areas, genetic resources, agronomy, properties, uses, processing and R & D needs. Also of interest are the section on Congresses and Meetings and the bibliography of recent work on nut trees in the NUCIS network region – Europe, North Africa and the Near East.

For further information contact IRTA - Mas Bove, Departament d'Arboricultura Mediterrania, Apartat 415, E- 43280 Reus, Spain. E-mail: ignasi@masbove.irta.es

Dryland Pasture, Forage and Range Network News

Issue 14 of this 'informal vehicle for communication' that is published semi-annually by ICARDA, IPGRI, FAO, CIHEAM, CLIMA/Australia, the Small Ruminant Research Program, USAID (SR-CRSP/USA), and IDRC, Canada, contains reports on the biodiversity of annual species in the Syrian steppe, collecting range species in Morocco, and items of news of interest to MEDUSA network members.

For further information and subscription, contact Mousstafa Bounjemate, ICARDA, PO Box 5466, Aleppo, Syria,

Fax: 963 21 225105,
E-Mail: m.bounjemate@cgnnet.com

Global Newsletter of Underutilized Crops, March 1998.

This first issue of the new Newsletter of the International Centre for Underutilized Crops (ICUC) includes a number of items that will interest Mediterranean readers. It includes reports from organizations that deal with underutilized crops, such as FAO, IPGRI, ODI and ICUC itself, news on networks (including MEDUSA), crop news, reports on recent and forthcoming meetings, and publications of interest. It also provides a preliminary list of scientists, organizations and public and private enterprises interested in underutilized crops and plans to include a directory in succeeding issues.

Contact: Dr Nazmul Haq, ICUC, Institute of Irrigation and Development Studies, The University of Southampton, Highfield, Southampton SO17 1BJ, UK.

OPTIMA Newsletter –32 / Informateur OPTIMA –32

The long established organization known as OPTIMA that is concerned with the taxonomic study and conservation of plants of the Mediterranean area clearly complements the activities of the MEDUSA Network. The latest issue of the OPTIMA Newsletter will provide MEDUSA readers with much information of value. Apart from information on OPTIMA itself, it contains news on chromosomes, conservation, herbaria, projects, meetings and an extensive reviews of publication section, the latter edited by Werner Greuter.

Contact: Dr J.M. Oriondo, OPTIMA Secretariat, Depto de Biología Vegetal, EUIT Agrícola, Universidad Politécnica de Madrid, E-28040 Madrid, Spain. Email: iriondo@ccupm.upm.es

Non-Wood News. An information bulletin on Non-Wood Forest Products. FAO. No. 5 .

This 72-page issue of Non-Wood News is packed with information. It includes special features on the World Forestry Congress and on non-timber forest products. There is an extensive News and Notes section, with frequent mention of MAPs and ethnobotany, and other sections on Products and Markets, Country Compass, International Action, Recent Events and Publications of Interest. Although global in coverage, it contains a number of items that will be of interest to MEDUSA readers

Contact: Dr Paul Vantomme, Non-Wood News–FOPW, FAO, Viale delle Terme di Caracalla, 01000 Rome, Italy. E-mail: non-wood-news@fao.org

Medicinal Plant Conservation. Newsletter of the Medicinal Plant Specialist Group of the IUCN Species Survival Commission. Volume 4.

This latest issue of the MPSG Newsletter does not contain any articles on Mediterranean plants but Uwe Schippmann, co-chair of the MPSG, contributes a useful summary of the tenth meeting of the Conference of the Parties to CITES held in June 1997. The Newsletter also contains reports on conferences and forthcoming meetings and reviews and notes on new publications.

Contact: Bundesamt für Naturschutz, Konstantinstraße 110, D-53179 Bonn, Germany.

Events

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October

MENPE'98 Middle East Natural Products Expo. The First International Exhibition for Natural Products in the Middle East

Forum de Beyrouth, 7–10 October 1998

This will be the largest-ever exhibition of natural products in the emerging market of the Middle East. The exhibit profile includes, beverages, food products, organic products, natural cosmetics, vitamins and supplements.

Contact: MENPE'98, 630 Sherbrooke Ouest, Montreal, Quebec H3A 1E4, Canada.
Fax: 514 845 8691.

November

1st International Conference on Cacti and Other Succulents.
5–9 November 1998, Gibraltar.

Contact: Mr Brian Lamb, PO Box 561, PMB 6152, Gibraltar.
Fax: + 250 42465.
E-mail:
wildlife_gib@compuserve.com

New Crops and New Uses: Biodiversity and agricultural sustainability

8–11 November 1998, Phoenix, Arizona

Sponsors: Association for the Advancement of Industrial Crops (AAIC), Purdue University Center for New Crops & Plant Products (PUCNC), New Uses Council, Inc. (NUC)

Contact: Dr David Dierig, AAIC, AAIC, c/o Water Conservancy Laboratory, 4331 E. Broadway Road, Phoenix, Az 85040-8832, USA. Email: secretary@aaic.org or Dr Jules Janick, Purdue University, 1165 Horticulture Bldg, West Lafayette, IN 474907-1165, USA. Email: jjanick@hort.purdue.edu

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March

Fourth European Symposium on Industrial Crops and Products,
together with the
Sixth Symposium on Renewable Resources for the Chemical Industry

23–25 March 1999, Bonn, Germany.

Contact: S. Wilkinson, Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, OX5 1GB, UK

Tel: + 44 1865 843691,
Fax: + 44 1865 843958;
E-mail:
sm.wilkinson@elsevier.co.uk

April

Commission on Genetic Resources for Food and Agriculture.

19–13 April, Rome Italy.

Contact: Dr J. Esquinas-Alcazar, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy.

August

International Conifer Conference.
22–25 August 1999, Wye, UK.

Contact: Miss Lisa von Schlippe, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, UK.
Fax: + 44 (0) 181 332 5197.
E-mail:
L.von.schlippe@rbgkew.orh.uk

Reports of meetings

1ere rencontre nationale en biotechnologie vegetale. 14-15 Octobre 1997, Oran (Algerie).

Cette rencontre a ete organisee par le departement de recherche en biologie appliquee, USTOran, B.P. 1505 El M'Nahouer Oran (Algerie), Pr. M. Kaid-Harchi

Les themes traites durant cette rencontre sont:

Ressources genetiques et biotechnologie,

Apport des biotechnologies dans l'amelioration des plantes,

La biotechnologie dans la conservation des ressources phyto-genetiques,

Valorisation des substances vegetales d'interet pharmaceutique.

Colloque international sur la biodiversite des zones arides: ecodeveloppement du Sahara central. 20-22 Novembre 1997, Tamanrasset (Algerie).

Ce colloque a ete organise par la FOREM (Fondation Nationale pour la promotion de la sante et le developpement de la Recherche Medicale et scientifique). Centre culturel H. Dey, rue Kaddour Rahim Alger, Algerie. Pr. M. Khiati. Lors de cette rencontre, plusieurs themes relatifs aux zones arides ont ete abordes: la faune, la flore, l'agriculture et l'elevage, les outils de gestion des ecosystemes sahariens, l'economie et la sociologie des zones arides.

International Report on an ad hoc Inter-agency Consultation on Promoting the Conservation and Sustainable Use of Wild Plants of Importance for Food and Agriculture, Paris, 11-13 February 1998.

DIVERSITAS, a programme of biodiversity science, with UNESCO,

IUBS, IUMS, , SCOPE, as partners convened a consultation in association with UNESCO, FAO, IPGRI and the Convention on Biodiversity (CBD) Secretariat at UNESCO Headquarters, Paris, to bring together the different organizations concerned with the conservation and sustainable use of wild plants of importance for food and agriculture, including forestry, medicine and other groups of interest to humans. The aim of the meeting was to develop a draft framework for collaboration amongst organizations so that appropriate action could be taken, set out steps for this collaborative action in more detail, the coordination mechanisms needed and identify funding sources, seeks ways of raising the awareness of politicians, the scientific community and the public at large, and provide a report for the Executive Secretary of the CBD Secretariat.

The Consultation took place within the framework of the Convention on Biological Diversity and in particular decision III/11 of the Conference of the Parties to the Convention on a multi-year programme of activities on agricultural biodiversity, and the Global Plan of Action (GPA) for the Conservation and Sustainable Utilization of Plant Genetic Resources that had been agreed at FAO's Fourth International Technical Conference held in Leipzig, Germany, in June 1996.

It also received presentations from representatives of UNEP, ICUC, IPGRI, IUCN, IUFRO, ITDG, WCMC, Bureau des Ressources Genetiques (France), as well the sponsoring organizations, and

Professor V. Heywood (DIVERSITAS) gave a background paper on the scientific and social issues involved. He stressed the critical role that wild plants played in the survival and livelihood of hundreds of millions of people – usually the rural poor – and the need for an overall plan to guide and coordinate actions aimed at the conservation and sustainable use of wild plant resources. These plants had not only an economic role but had a very strong social dimension, often serving to maintain the cultural identity of many groups, *in situ* observations

The topics discussed included existing activities, networks and databases dealing with wild species, information needs and availability, areas for collaborative action, and implementation measures. The meeting requested FAO to consider hosting the next meeting to take the process forward.

The full report has been submitted to the Fourth meeting of the Conference of the Parties to the Convention on Biological Diversity held at Bratislava in May 1998 as an Information paper (UNEP/CBD/COP/4/Inf.17). Copies may be obtained from the DIVERSITAS Secretariat, c/o UNESCO-MAB, 1 rue Miollis, 75015 Paris, France. E-mail: diversitas@unesco.org

Contact: Professor V.H.Heywood, Centre for Plant Systematics and Diversity, School of Plant Sciences, The University of Reading, PO Box 221, Whiteknights, Reading RG6 6AS.

The First International Mediterranean Meeting on Medicinal and Aromatic Mediterranean Plants, Ansiao, Portugal, 1998

The First International Meeting on Aromatic and Medicinal Mediterranean Plants was held at Ansiao, Portugal, from 24 to 26 April 1998, organized by Professor A. Proenca da Cunha and colleagues of the Faculty of Pharmacy, University of Coimbra, the Portuguese Horticultural Association, LAC-CEFOP Conimbriga, the Institute for Agricultural Development Centre Region, the Conimbriga Monographic Museum and the National Agronomy Station. Invited speakers from Portugal, Spain, the Netherlands, Turkey, France, FAO and UNDO gave papers and 20 other oral presentations as well as an array of posters. The subjects covered ranged from the identification, ethnobotany and conservation of medicinal plant resources to production methods, industrial processing, pharmacology, sustainable agriculture, marketing and legislation.

Recommendations were passed by the meeting on genetic resources, conservation, industrial development, development strategy and information management for medicinal and aromatic plants (MAPs) in the Mediterranean region.

Contact: Professor A. Proenca da Cunha, Faculty of Pharmacy, Department of Pharmacognosy, University of Coimbra, Rua Do Norte 3000 Coimbra, PORTUGAL, Fax.: + 351 39 27126

The IPGRI Conference on Priority Setting for Underutilized and Neglected Species of the Mediterranean region, 9-11 February 1998, c/o ICARDA, Aleppo, Syria

An international Conference entitled 'Priority Setting for Underutilized and Neglected Plant Species of the Mediterranean Region' was held by IPGRI at ICARDA, Aleppo from 9 to 11 February. The main objective of the meeting was to identify priorities (species, areas and research needs) for addressing the better conservation and use of neglected and underutilized species (NUS) across the Mediterranean region. Key experts on plant genetic resources from each WANA country were invited to report on the status of conservation and use of NUC in their countries and recommend prioritized actions needed for their better conservation in the aftermath of the 1996 FAO Fourth Technical Conference calling for specific actions to promote conservation and greater use of NUC around the world.

The Conference was an output of the 'Underutilized Mediterranean Species Project' (UMS), an Italian-supported activity aiming specifically at the safeguard of NUC in this region. The recent move of the coordinator of this project from IPGRI's Headquarters in Rome, Italy to the regional Office for WANA and Central Asia, at ICARDA, Aleppo, has created new opportunities to strengthen this work through a closer collaboration with partners in the region. The Conference was combined with the meetings of the WANANET Working Groups on *In situ* conservation & Biodiversity, Horticulture and Industrial Species.

The Conference was structured into three parts. The first part was meant to introduce the NUS diversity wealth in the Mediterranean region, used for food, feed, industrial uses, medicine, etc. It was noted that the Mediterranean region is home to more than 360 species that have there their primary or secondary center of domestication. As an example, at least 50 plant species have been domesticated using autochthonous material originated here. (However, if we include also all those not domesticated one, this figure will be much higher). These have been selected over time from a plant diversity of more than 25 000 species, one the richest in the world.

The second part dealt with a more detailed account of the status of conservation and use of the plant genetic diversity in each of the WANA countries. Presentations were all structured following specific guidelines prepared by IPGRI which recommended to present the state of the art on NUS as with regard to use and complementary conservation strategies for their sustainable exploitation. A point that was clear in the country presentations was that conservation of NUS can only be achieved through use. This fact pleased IPGRI quite a bit, since it does represent the 'core element' in its strategy for their promotion. As Dr Pablo Eyzaguirre – IPGRI's Socioeconomist based in Rome – emphasized, the only way to put in place a sustainable system for the safeguard of genetic resources of NUS is to enhance uses through the identification of constraints or factors responsible for their limited use or decline (these could be grouped in fact into four main types

i.e. germplasm & research, user, market & commercialization and policies related factors).

The third part of the Conference addressed the setting of priorities for the NUS across the CWANA region. This was the toughest job, but ultimately it paid off! Given the complex status of NUS (their biological diversity, socio economic and cultural implications, etc.) the identification of priorities that would guide future work in this domain in the CWANA region was indeed an ambitious task. This challenge was tackled by Dr Stefano Padulosi of the IPGRI CWANA Office, who worked closely with the participants on the 10 afternoon and 11 morning sessions to identify which were those common constraints across the region and to come up with corresponding actions required to overcome them. The analyses was also directed towards the identification of actions for which the plant genetic resources community in the region has its comparative advantage over other workers in other disciplines for their implementation. Setting priorities mean in fact also to use available skills at the best and leave other activities in which we are not strong enough to those people that can better do the job. Going from the most important ones in a descending priority order, the group listed 10 major constraints: 1. Low competitiveness, 2. Lack of knowledge on uses, 3. Lack of research on genetic diversity assessment & use, 4. Policies & Legislation, 5. Loss of traditional knowledge, 6. Lack of market / poor commercialisation, 7. Low income, 8. Lack of propagation techniques, 9. Scarce knowledge on cultural practices and 10. Lack of attractive

traits. For each of these constraints a set of priority activities were then proposed. In order to provide also some concrete suggestions to which species future work should ideally be focusing on, a list of priority species was also compiled on the basis of their contribution to food security, ecosystem conservation and poverty alleviation in the region: some 40 genera/species were recommended as key NUS on which future work should be emphasized in future. Among them are forest trees such as *Pistacia* spp., *Quercus* spp. and *Acacia* spp.; fruit trees and nuts such as pistachio, carob, quince; vegetables such as chicory, caper, *Malva* spp.; medicinal and aromatic species such as oregano, *Artemisia* spp. and coriander; forages such as *Atriplex halymus*, *Salsola* spp. and *Lathyrus* spp.; industrial species such as safflower and *Rhus* spp.; ornamental such as *Tulipa* spp. and *Nerium* spp.; pulses such as *Trigonella foenum-graecum* and cereals such as *Secale cereale* and hulled wheats.

What will be the next step now? IPGRI commitment in the area of NUS is an historical one and work on NUS is being carried out in all its regional offices, including CWANA. In this region, IPGRI will work towards the implementation of the Conference recommendations while some immediate actions have been already announced for this year including two workshops on NUS to take place in a Northern African country and in Central Asia. But, most of all, IPGRI will be stressing the importance of NUS at the Global Plan of Action Implementation Meeting, planned by FAO in collaboration with IPGRI and ICARDA for next June here at

ICARDA. At this venue, Conference recommendations will be reported and greater support for this orphan-research species will be sought.

The interaction between WANANET and NUS during this conference was very fruitful in harmonizing priority setting for plant species of common interest and will result in increased joint research activities between these two Networks in this domain.

Contact: Dr. S. Padulosi, IPGRI Regional Office for Central & West Asia and North Africa, c/o ICARDA, P.O. Box 5466, Aleppo, SYRIA. Email s.padulosi@cgnnet.com

IX OPTIMA meeting, Paris, Museum National d'Histoire Naturelle, Paris 11-17 May 1998: Mediterranean Botany in Perspective at the IX OPTIMA Meeting

Jose M. Iriondo

OPTIMA (Organization for the Phyto-Taxonomic Investigation of the Mediterranean Area) held its 9th Triennial Meeting in Paris, on 11-17 May 1998, drawing over 250 people from 18 countries. The meeting was held for seven intensive days and consisted of twelve multidisciplinary symposia.

At the Opening Session, Prof. Francesco di Castri gave a Plenary Lecture on *Mediterranean biodiversity in the context of a global economy*. The symposia covered a wide range of subjects related to Mediterranean botany. Following the tradition of past meetings where special attention is given to the area where the meeting is held, two symposia were assigned to *French activities in Botany*. Two additional symposia were reserved for the study of particular taxonomic groups:

Taxonomy, distribution and ecology of Mediterranean Bryophytes and Fungal diversity in the Mediterranean area, and another two to the study of plant life under specific environmental conditions: *Plants and serpentine formations in the Mediterranean* and *Plant life at the southern limits of the Mediterranean region*. Advances in the current 'information age' in Mediterranean botany was illustrated in three symposia dedicated to *Data resources for Mediterranean botanists: Mediterranean databases*. Finally, conservation, molecular techniques and ethnobotany also had their share with *Knowledge and conservation of biodiversity in Mediterranean islands*, *Molecular phylogenies of Mediterranean groups* and *Usage of plants in the Mediterranean region*. The contents of the symposia were further complemented by two poster sessions on these topics.

At the Closing Plenary Meeting, Prof. Werner Greuter was awarded the OPTIMA Gold Medal. This medal is awarded every three years to a botanist who, by his or her activity, is considered to have made an outstanding contribution to the phytotaxonomy of the Mediterranean area. Three OPTIMA Silver Medals, awarded to the authors of the best papers or books on the phytotaxonomy of the Mediterranean area that were published in the preceding three-year period, were granted to Dr. Theodorus H.M. Mes from Holland (year 1995), Dr. Zoila Diaz-Lifante and Prof. Benito Valdes from Spain (year 1996), and Dr. Lucilla Baldoïn and Prof. Mauro Raffaelli from Italy (year 1997).

In addition to the symposia, ten OPTIMA Commissions that play an

active role in different areas of Mediterranean botany held their meetings. A report of their activities was presented at the Closing Plenary Meeting. The following activities may be highlighted: the excellent progress in the checklist of Mediterranean lichens and in the mapping of orchids in the Mediterranean area, the update and consolidation of the karyosystematic databases, the organization of botanical expeditions in the Mediterranean area, and the significant advances in the establishment of the Herbarium Mediterraneum along with its intensive publication activity. The activities of the Commission of Plant Resources for the establishment of a network of seedbanks for wild plant species in the Mediterranean, the promotion of studies on wild relatives of cultivated plant species and the conservation of Mediterranean threatened plants should also be noted. Most commissions showed their interest in organizing their information in databases and making this information available to the scientific community through the Internet facilities. The recently created commission for Information Transfer and Networking is working to facilitate these tasks.

In addition, the International Board approved the creation of two additional commissions, one for the study of Mediterranean Fungi and the other for coordination with the Euro-Mediterranean Initiative in Plant Systematics (Euro+ Med PlantBase).

The Proceedings of the IX OPTIMA Meeting will be published in *Bocconea*. A new Programme Committee is already working on

the organization of the next OPTIMA Meeting which will be held in Palermo, in 2001.

Contact: Dr. Jose M. Iriondo, Secretary, OPTIMA, c/o Dpto. Biología Vegetal, E.U.I.T. Agrícola, Universidad Politécnica de Madrid, Ciudad Universitaria, E-28040 Madrid, Spain. Tel: + 34 91 336 5462. Fax: + 34 91 336 5656. E-mail: iriondo@ccupm.upm.es

European Symposium on Plant Genetic Resources for Food and Agriculture, 30 June–4 July 1998, Braunschweig, Germany.

This meeting was one of series of regional symposia that are being held around the world in 1998 to assess progress made, in this case at a European level, in implementing the 1996 Global Plan of Action for Plant Genetic Resources for Food and Agriculture. It was attended by over 150 experts from over 40 countries. The meeting was hosted by The Federal Centre for Breeding Research on Cultivated Plants (BAZ)/Federal Agricultural Research Centre (FAL) and ZADI- IGR Information Centre for Genetic Resources and was held at the Federal Agricultural Research Centre at Braunschweig. The programme was an intensive one, starting at 8.30 each morning and continuing well into the evening before returning to the hotel.

After reviews of plant genetic resources activities in Europe in both the formal and informal centres, topics addressed included National programmes for institution and capacity building; *in situ* conservation and development, both of wild relatives of crops and on-farm management and improvement; *ex situ* conservation;

and collaboration with other regions. Much of the meeting took place in six working groups that covered: *in situ* conservation of wild relatives; on-farm management and improvement of plant genetic resources; sustaining *ex situ* collections; seed production and distribution; collecting; underutilized crops; and utilization of plant genetic resources. The working groups and discussion leaders reported to the closing session and presented a set of recommendations for the consideration of the ECP/GR Steering Group that also met before and after the symposium. There were also displays on training, capacity building and awareness raising and on information systems.

As an ECP/GR meeting this symposium was unusual in that representatives of NGOs played a prominent role, including Patrick Mulvany of ITDG and Vernon Heywood, chair of the MEDUSA Steering Committee and President of ICMAP, the latter co-chairing the workshop on *in situ* conservation.

The papers and results of the symposium will be published.

Contact: Dr Thomas Gass, ECP/GR, IPGRI, Via delle Sette Chiese 142, 00145 Rome, Italy. Email: T.Gass@cgnnet.com

III Meeting of Euro+ Med PlantBase, Euro-Mediterranean Initiative in Plant Systematics, 30 May – 2 June 1998, Sevilla, Spain.

The Euro+ Med PlantBase aims to develop an electronic international database and information system for the flowering plants and ferns of Europe, the Mediterranean region, Macaronesia and the Caucasus and provide this against an evaluated consensual taxonomic core that is periodically reviewed, thus providing a single source and system for obtaining through linked databases information for a wide variety of users, such as planners, conservationists, ecologists, protected area managers, genetic resource managers, agronomists, horticulturists, industrialists, developers, environmental legislators and economists. It will also include summarized data on phenology, distribution, endemic and native status, phytosociology, karyology, illustrations, biosystematics, phytochemistry, conservation status, legal protection,

and economic or scientific importance.

Its third international workshop held at the Royal Seville Academy of Sciences in Sevilla, Spain, was attended by over 50 participants from 16 countries.

Most of the meeting was devoted to working group sessions dealing with: database and information issues, the methodology of taxonomic revision, ecology, geography, biosystematics, plants uses and phytochemistry. The reports of the working groups were debated at the final plenary session and agreement was reached on the operational plans and mechanisms needed to bring this ambitious project, involving country, regional and taxonomic centres all over Europe and the Mediterranean region, into effect.

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