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Chairs’ Note
A.B. Cunningham & Uwe Schippmann

The preparation of this second issue of *Medicinal Plant Conservation*, the newsletter of our Specialist Group has taken longer than expected and it seems that we are heading towards an annual rather than a biannual publication.

This issue is more comprehensive than our earlier one and we sincerely hope that you will find it useful. Upon request from members, we have included a new section *Reviews and Notices of Publication* in which we intend to review papers and books on conservation issues. Since we would very much like to present the publications of our members, the editors would appreciate receiving reprints for review.

We want to thank Andreas Gröger and Hajo Schmitz-Kretschmer for their efforts in editing this issue. Again, as with the first issue, the production was made possible through the generous support of German Federal Agency for Nature Conservation. Also, we would like to thank the contributors to this issue who have taken the opportunity to present their medicinal plant work to the group. Comments and requests regarding these papers should be directed to the author’s addresses.

The interest in the MPSG is very high. We receive interesting information on groups and projects almost every day. Of course, this information should be made available to Group members and the interested public. For this reason, we are preparing a global *Directory of Networks, Organizations and Projects on Medicinal Plants* to fulfill the coordination role of our Group. This handbook will be ready in mid 1996 and is again made possible through the financial support of the Bundesamt für Naturschutz. Andreas Gröger and Max Kasperek are presenting this initiative further down in this issue.

The membership of the Group has increased to 53 members over to the last year. With a view on the low representation of European and South American experts it is intended to strengthen the Group by invitation of active medicinal plant experts with conservation background from these regions.

Unfortunately, IUCN has not yet provided the new membership directory for the present triennium. Moreso, a number of members who have accepted our invitation at an early stage have only recently been brought to our attention. This was due to database problems at IUCN Headquarters in Gland. Please accept our apologies for this inconvenience. All members are listed in the back of this issue. To enable communication of Group members, we have included full addresses, telephone, fax and e-mail numbers.

**Medicinal Plant Trade, Conservation and the MPSG**
A.B. Cunningham

The Medicinal Plant Specialist Group (MPSG) was formed in May 1994 in response to increased awareness of the conservation implications of trade in medicinal plants. This "hidden economy" is a continuum which can be divided into three main categories, with increasing levels of formalisation of trade from local to international levels:

- The first category is the national trade in traditional medicines which can involve hundreds of plant species. More than 400 plant species are sold at urban traditional medicine markets in KwaZulu/Natal, South Africa, for example, out of more than 1000 species used in traditional Zulu medicine in this region. Similar numbers of plant species are sold at markets in large urban centres in Africa, such as Treichville market, in Abidjan, Cote d'Ivoire or Ver-o-Peso market in Belem, Brazil.

- Secondly, there is an informal sector trade in popular traditional medicines across national borders within the same continent. This cross-border trade generally involves fewer species, a higher proportion of which are of conservation concern. African examples are the cross-border trade in *Warburgia salutaris* (Canellaceae) and *Siphonochilus aethiopicus* (Zingiberaceae) from Swaziland to meet demand for these popular and increasingly scarce herbal medicines in South Africa. An Asian example would be the trade in Himalayan medicinal plants such as *jatamansi* (*Nardostachys grandiflora*) and *sugnadharwal* (*Valeriana jatamansi*, both Valerianaceae) from Nepal to India.

- Thirdly, there is formal export trade, which involves fewest species per country or bioregion. Cameroon, for example, exports four medicinal plant species to Europe. The most important of these are bark extract from the trees *Prunus africana*
(Rosaceae) used to treat benign prostatic hypertrophy, all of which is exported to France and the aphrodisiac bark of *Pausinystalia johimbe* (Rubiaceae), where 65% is exported to Holland, 18% to Germany and the remainder to Belgium, Luxembourg and France.

Harvesting of medicinal plants, whether for export or local use is highly species specific and popular herbal medicines from the same genera or species are often exploited from the same biogeographic area for local use or export. Aromatic aloes wood or guharu from several *Aquilaria* species (Thymelaeaceae) is exploited from throughout their range in South east Asian tropical forests for export to Hong Kong and the Arabian peninsula. *Prunus africana* is similarly harvested from several Afrotropical forest "islands" (Zaire, Cameroon, Madagascar, Kenya, Uganda) for export to Europe. Many countries within a biogeographic region not only have these species in common, but also a common root of overexploitation of slow growing, habitat specific species. A particularly common feature is the high rural unemployment leading to labour intensive harvesting of medicinal plants (for local sale or export) as one of the few income earning options in remote rural areas.

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**MPSG News**

**Membership Development**

*Uwe Schippmann*

In April 1995, at the time of publication of *Medicinal Plant Conservation* 1, the MPSG counted 33 members. Since then, this number has grown considerably: by 15 April 1996, 53 members had joined the group after being invited by the co-chairs. We have put the major emphasis in getting experts from those regions involved where medicinal plant utilisation is prevalent and may lead to conservation concerns. A broad and geographically well balanced membership distribution was achieved, as shown in the following table:

<table>
<thead>
<tr>
<th>Region of expertise</th>
<th>No. of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>17</td>
</tr>
<tr>
<td>Asia, temperate</td>
<td>4</td>
</tr>
<tr>
<td>Asia, tropical</td>
<td>15</td>
</tr>
<tr>
<td>Asia, western</td>
<td>3</td>
</tr>
<tr>
<td>Australasia</td>
<td>1</td>
</tr>
<tr>
<td>Europe</td>
<td>4</td>
</tr>
<tr>
<td>Northern America</td>
<td>1</td>
</tr>
<tr>
<td>Central America</td>
<td>7</td>
</tr>
<tr>
<td>Southern America</td>
<td>9</td>
</tr>
<tr>
<td>Pacific</td>
<td>1</td>
</tr>
</tbody>
</table>

Some members have been counted as experts in more than one region.

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**Meeting of Medicinal Plant Specialist Group in September 1996**

*Uwe Schippmann*

Although established almost two years ago, the MPSG has not yet formally met. This is mainly due to the difficulties inherent in bringing together a group with global remits.

A first rather informal meeting of 8 Group members took place on 23 June 1995, on the occasion of the CITES Plants Committee meeting in Puerto de la Cruz. It discussed the CITES related topics of medicinal plant conservation (see *CITES News*).
In order to save funds and also travel time for the Group members we have planned our meeting in conjunction with another conference which a number of members are likely to attend anyway. Therefore, the MPSG is holding its first meeting in conjunction with the 5th International Congress of Ethnobiology, held in Nairobi, Kenya from 2-6 September 1996 (see Conferences and Meetings).

Main agenda will be discussions on the Group’s working programme, the elaboration of a global Medicinal Plant Action Plan, and the methodology of ethnobotanical market surveys.

Request for Information: At this stage, we would like to know which members will attend the Nairobi conference.

Directory of Networks, Organizations, and Projects on Medicinal Plants

Andreas Gröger & Max Kasparek

Medicinal plants play an important role in traditional as well as modern health care. In many cases wild collected material still represents one of the main sources for pharmaceuticals, leading to increasing pressure on the populations of some species. One important objective of the IUCN Medicinal Plant Specialist Group is the monitoring of the status of exploitation of medicinal plants as a basis for their sustainable management.

For this reason a directory of networks, organizations, and projects involved in conservation and management of medicinal plants is established. This synopsis should improve communication especially between industry and conservationists to coordinate activities and to enhance sustainability of this important natural resource. The directory will contain information on institutions (address, phone and fax numbers, status, membership), scope of work (objectives, projects, area of taxonomic and geographic specialization) and the availability of institution’s information (newsletters, meetings, databases).

To date, more than 200 institutions have been addressed with a questionnaire. The Directory of Networks, Organizations, and Projects on Medicinal Plants will be published in mid 1996. All organizations cited in the directory will receive a free copy. If you want your organization to be included in the survey, please request forms from:

Dr. Max Kasparek, Bleichstrasse 1, D-69120 Heidelberg, Germany, Tel +49-6221-475069, Fax +49-6221-471858

Working towards a “Top 50” Listing

A.B. Cunningham

The development of a Medicinal Plant Action Plan faces four major challenges. First, the number of medicinal plants species that are used or in local trade is very high. Second, they range from small, unspectacular (but important) plant species to large rainforest trees. A third problem is the socio-economic complexity of the “hidden economy” of trade and the complex management and control measures required. Finally, there is the vast geographical distribution and over-exploitation of wild-harvested medicinal plants, ranging from temperate areas such as North America and Eastern Europe to the tropics.

It is useful to compare this task to other SSC Groups and then to think of the best way forward. The Elephant and Rhino Specialist Group obviously deals with very few species, as do the Sturgeon (14 species) and Cat Specialist Groups (36 species). By comparison, more than 500 medicinal plant species are traded in the Johannesburg area of South Africa alone (WILLIAMS 1996). Some of these are not threatened at all. Large numbers of medicinal plant species are also traded from other conservation priority regions such as the Himalaya and Southeast Asia. In terms of the number of species and the geographical distribution of both these species and the SSC members, we face a similar problem to the Orchid and Pteridophytes SSC Groups. The role of cultivation of medicinal plants compared to orchids is very different, however. While 80% of orchids in international trade are artificially propagated, the opposite is true of medicinal species, with the majority harvested from the wild. So where do we start?

Our aim should be to guide and support a process which uses a common methodology to identify the “Top 50” medicinal plant species for conservation action. These will become the “flagship” species of this SSC group. The approach to identifying the “Top 50” species was first suggested by the Canary Islands and Pteridophytes Specialist Groups (see report by STIRTON in Species 24). It should apply to medicinal plants as well, but in our case, involves an overlap of biological and socio-economic factors.
We suggest 5 steps, where we would progressively sharpen the focus towards identifying the "Top 50".

**STEP 1: Identify major sale sites.** In case of international export trade this could be through customs data and phytosanitary certificates. In the case of informal trade networks, it is useful to survey the largest (regional and central) markets which carry the widest range of species, then work "up stream" to source areas identified on the basis of discussions with commercial collectors and traders to collect fresh voucher specimens (see next step).

- **Regional markets:** which cover the largest area and which are found in large central places and which generally support several marketplaces;
- **Central markets:** usually found at a strategic point in the transportation network where wholesaling takes place and which also can be the site of several market places;
- **Standard markets:** which are the end point for sale of imported items from cities and towns in addition to being places where local exchange takes place. Standard markets also are the starting point for the flow of agricultural goods and crafts into larger central or regional markets;
- **Minor markets:** are characterised by local exchange of goods between local people, which SKINNER 1964 termed "horizontal exchange". Minor markets deal with few goods that are imported into the area. These represent an early stage in the development of markets.

**STEP 2: Identify medicinal plants in trade.** This would focus on the three levels of trade, outlined on page 2 of this Newsletter and in Species 24. Each represents an increasing level of formalisation of trade from local to an international level: informal sector national trade in traditional medicines from rural source areas to city markets, trade across national borders within the same continent and international export trade.

All three of these categories of medicinal plant trade are affected by economic decline, rural unemployment and rapid urbanisation in source countries. Major urban markets and international trade should be the priority - not small-scale trade.

Results of research studies (see summaries of studies by FOSTER 1993, HERSCH-MARTINEZ 1995, WILLIAMS 1996) would certainly be taken into account. In some cases, however, new research on ethnobotanical studies would need to be conducted of medicinal plants in trade, rather than repeat government department trade statistics of dubious quality.

The identification of species in trade can be done at "both ends", in source countries and in importing countries. Correct identifications are best done in source countries. It is extremely important that this is done through collection and expert identification of good voucher specimens. Use of trade names or supposed identity of species from names given by exporters is not enough. A classic example is the trade in Harpagophytum procumbens tubers from Namibia, which in fact is in trade in mixed batches of two species, *H. procumbens* and *H. zeyheri*.

**STEP 3: Prepare a short-list of species in trade which are:**

- destructively harvested (bark, roots, wood, whole plants);
- slow growing (in some cases separation on the basis of life-forms is useful);
- at local markets (i) are most popular and/or most expensive, (ii) are sold in great numbers (small plants) and/or volume;
- considered to becoming scarce by market traders or commercial collectors.

**STEP 4: Short-list these further on the basis of commonness or rarity** and on the basis of their characters of geographic distribution, habitat requirements and local population size (for details of this see RABINOWITZ et al., 1986), with highest priority given to a species with a narrow geographical distribution, a restricted habitat and small population size:

- geographic distribution: wide / narrow
- habitat specificity: broad / restricted
- local population size: somewhere large / everywhere small.

**STEP 5: Within the resulting short-list, set priorities on the basis of phylogenetic distinctness.** Aljos FARJON outlines this approach using a rating system (see Species 24, June 1995) with highest priority given in descending order to:

- species in monotypic families (highest priority); then
- species in a monotypic genus;
- species in a segregate genus, subgenus or section of medium to large genus;
- species in a small genus (2-5 species);
- species in a medium to large genus
- species which are part of a species-complex; with the lowest priority alligned to an infraspecific taxon in a medium to large genus.

30 April 1996
Organizations and Projects

TRAFFIC East/Southern Africa Starts Medicinals Project

Nina Marshall

In Africa, 70-80% of the continent’s population relies on plant- and animal-based medicines to meet their health care requirements. For the most part, the plants and animals used in traditional medicine are collected from the wild, and in many cases, demand far exceeds supply.

As Africa’s population grows, demand for traditional medicines will increase, and pressure on natural resources will become greater than ever. While loss of habitat is the major factor contributing to the depletion of natural resources in Africa, collection of wild plants and animals for traditional medical use is extremely detrimental to certain species.

African plants and animals are also valued in selected markets around the world. The growing demand for natural cosmetics, as well as for herbal and proprietary (prescription) medicine, has resulted in significant imports of wild plants to developed countries. At the same time, minimal information exists on the identity of many species in trade, the volumes traded and the impact of harvest.

In order to address this lack of information and to collect data that will promote the conservation of species utilised for medicinal purposes, TRAFFIC East/Southern Africa has initiated a survey of wildlife medicinals traded in 19 countries (Angola, Botswana, Djibouti, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe). This effort will yield information on the key species and markets for further study. The results of the study will provide a foundation upon which future research can be carried out on species most in need of study.

During the course of this 12 month project, efforts will be made to understand the dynamics of the trade in animal and plant medicinals within East and southern Africa and Madagascar as well as for those originating in the region that are traded globally. A list of priority plant and animal species of conservation concern will be developed. This effort will yield information on trade, socio-economic factors, conservation, and end-markets (international and domestic).
The information resulting from this project will be of use to governments and organizations concerned with conservation and management of natural resources in east and southern Africa, as it can be used as a reference point from which to prioritize the actions necessary to ensure that the trade in wild life medicinals is conducted at sustainable levels.

Request for Information: If you are aware of an east or southern African plant or animal species used for medicinal purposes that may be of conservation concern, TRAFFIC East/Southern Africa would be extremely appreciative if you would share this information with us. Information on trade volumes, uses, conservation status and threats would also be appreciated. Please send any relevant information to:

Nina Marshall, Senior Programme Officer, TRAFFIC East/Southern Africa-Kenya, P. O. Box 68200, Nairobi, Kenya

Developing Plants as a Conservation Tool in Bolivia

Stephan Halloy

The Fundación Amigos de la Naturaleza (FAN) is an NGO defending Bolivian species and national parks since 1989. In accordance with world trends, it initially concentrated on locking up vast areas of rainforest, ousting people and keeping them away to maintain these areas in a pristine state. The weight of population and resource demand pressures was to prove this strategy wrong. One of the major National Parks in Bolivia, the Amboró, has recently retreated from an ambitious 638,000ha to 443,000ha, the rest being ceded to defacto occupiers.

Since 1994, people’s interest has been taken into account through a series of parallel actions. One project is developing methods of participative community planning. As poverty is one of the prevalent driving forces for destruction in Bolivia, the planning process provides options for more profitable, more secure and more sustainable utilization of resources. At a classical level, this entails aspects of crop management, soil protection, rotations, pest and disease management, varietal selection, utilization of communal support, marketing strategies and transport. The community planning project has been successful in developing conservation awareness and actions in several villages along the border of the Amboró National Park.

Traditional crops (e.g. maize, tomato, rice), no matter how well managed, face stiff competition, and therefore low prices. Development of completely new non-destructive alternatives to earn incomes is another option. This includes the development of "new" genetic resources. Ethnobiological studies have been performed in the vicinity of the Rios Blanco y Negro Wildlife Reserve to give an indication of potential useful species. Three indigenous tribes reported using a total of 305 medicinal plant species. The study also determined that external interests were unsustainably harvesting from the wild several species already known to the city populations.

The management plan for the Reserve has proposed pilot projects to research the possibility of developing a selection of these plants toward a market economy to reduce pressure on wild populations. Returns from such developments, if they occurred, could justify conservation in the eyes of local people, and could be channelled to fund conservation plans and environmental education. FAN is looking at overseas joint ventures in research and marketing to improve its capacity to produce a high value product.

Presently, research is planned around the Amboró National Park along the same lines. Because here local inhabitants are actually "colonists" from different climatic zones within Bolivia, their knowledge of the biota is often incomplete. For example, despite child malnutrition, neighbours of the Amboró are unaware that the local walnut tree bears energy and mineral rich nuts. Desperate poverty is pushing such colonists further and further into the park.

It is hoped that supplying commercially viable options will decrease the need for clearfelling ever newer areas of the forest. Medicinal plants, as well as ornamental, food, industrial and timber plants are seen as some of the multiple ways to realize such options.

Dr. Stephan Halloy; Biodiversity, Crop and Food Research Institute; PB 50034, Mosgiel, New Zealand, Tel. ++64/3/489-3809; Fax ++64/3/489-3739, E-Mail halloy@crop.cri.nz

30 April 1996
Towards Medicinal Plant Conservation in a West Himalayan Valley

Guy R. J. Duke

A preliminary ethnobotanical survey in the remote Palas Valley in Pakistan’s Himalaya identifies 68 plant species used in traditional medicine, several of which (e.g., Geranium wallichianum, Valeriana jatamansi, Saussurea lappa) are also for food, “tea”, fodder, firewood and tinder, “chewing gum”, cosmetics, attracting honeybees, “paper” and dye.

The Palasis practice an agro-sylvo-pastoral lifestyle and possess a rich, but mostly un-documented, knowledge of their natural environment. Villagers rank non-timber forest products, including medicinal plants, as their most important source of income.

A wide altitudinal range (800m to 5550m) supports a high diversity of plant communities including dry subtropical woodlands, temperate forests, sub-alpine birchwoods and alpine meadows. Over 400 species of flowering plants and ferns have so far been identified, including 3 new species, several Red Data Book and/or CITES listed species.

This is a region of high floral endemism (25% of species so far identified in Palas are west Himalayan “endemics”). However, the forests of Palas - one of the most important remaining forest tracts in Pakistan - are threatened by unsustainable commercial logging exacerbated by the extreme local poverty.

Preliminary botanical and ethnobotanical work has been carried out under the Himalayan Jungle Project (HJP), working since 1991 to tackle the problems of poverty and forest destruction in partnership with local communities. Future plans include an expanded ethnobotanical programme in collaboration with the Pakistan Agricultural Research Council (PARC) and the Royal Botanical Garden, Kew (UK), with the aim to document traditional ethnobotanical knowledge, identify and analyse sources of useful plant-derived products, and apply findings to enhance local incomes, promote the conservation and sustainable use of plants, and rationalise the local use of medicinal and edible plants. Preliminary collections of living plant material from Palas were made by an HJP/PARC/Kew team in September 1995.

HJP is executed by BirdLife International in partnership with the Government of Non Wood Forest Products (NWFP), Government of Pakistan and World-Wide Fund for Nature (WWF) Pakistan. HJP is currently financed by the European Community and the Government of NWFP. A 5-year follow-on project, the Papas Conservation and Development Project (PCDP), is expected to commence in mid-1996.

Guy R. J. Duke, Himalayan Jungle Project, Palas, 25, Street 67, Sector G-6/4, Islamabad, Pakistan, Tel. ++92/51/219073, Fax ++92/51/217004

Non-Timber Forest Products of Nepal

Risto Leamanen

The Forest Resource Information System (FRIS) project financed by the government of Finland has been active in Nepal for six years now. Surveying the non-timber forest products including medicinal plants has been one very important components in the project programme. The trade and exports of these products play a much more important role in the economy of Nepal than the forests do. Many of the species are being overexploited.

The Project has prepared a report of the General Status and Trade of Minor Forest Products of Nepal. In this work, the use, collection and trade of the 99 species that are being collected today were studied by visiting and investigating the collection licence records kept in the districts, trade centres and customs offices. The study revealed the volume of collection and trade of the species. Domestic users, especially Ayurvedic doctors reported that many of the traditionally used herbs in sub-alpine and alpine zones were already difficult to obtain due to scarcity caused by unsustainable collection methods. This study has laid a basis for other studies in this field in today’s Nepal. Two attempts in surveying the supply of these products in the field have been carried out, too. The first attempt was made to reveal the spatial distribution of Rheum australe and Asparagus ramosus in the hills of Nepal. The second attempt was made to test the feasibility of a joint forest and non-timber forest products inventory. Although many technical problems to implement such an inventory exists, it was found to be possible if there would be enough qualified human resources.

All these works described here have been conducted by Dr. Samar Bahadur Malla (former Director General of the Department of Plant Resources) as a free consultant. The objective of all these studies has
been the design and implementation of a nation-wide field survey of the endangered and valuable non-timber forest product species. Unfortunately, neither the Government of Nepal nor the FRIS Project has so far had enough resources to start the survey work.

Risto Laamanen, FRIS Project, P.O. Box 3103, Kathmandu, Nepal

Activities of the G. B. Pant Institute of Himalayan Environment & Development

Upendra Dhar

Conservation of biological diversity constitutes one of the six Core Programmes of G. B. Pant Institute of Himalayan Environment and Development, Kosi, Almora (India). Inventorying existing bioresources, establishing gene banks, assessing threats to biodiversity in selected protected areas of the region, and ensuring people’s participation in conservation are some of the important areas of activity.

The information available on different aspects of biodiversity in the Himalayan is grossly inadequate. In order to bridge the gaps in our knowledge, the Core Group has undertaken family wise inventory of angiosperms for analysing the extent of endemic plants diversity in the region. Besides, preparation of inventory on wild edibles, trees, rare and ethnomedicinals is in progress.

The activities also include the maintenance of an arboretum at Katarmal (Kumaon Himalaya), rhododendron arboretum (Sikkim) and a herbal garden at Dhubri (Nagaland). About 110 woody taxa (largely Himalayan natives), 21 species of Rhododendron and several medicinal plants are being presently maintained.

Compositional diversity and forest communities have been identified in Asokt Wildlife Sanctuary (Kumaon Himalaya). Analysis of manifestations of commonness and rarity in wild useful plants of the sanctuary has resulted in the identification of sensitive taxa/habitats. Considering orchids as habitat specialists, their host ranking according to index of sensitivity in the sanctuary has been analysed. Steps for alleviation on the basis of the analysis has been recommended.

In order to strengthen the component of people’s participation, the Core Group organised two training workshops in March and November 1995 at remote localities of Kumaon Himalaya. Over 300 participants attended the training. The target groups identified for this activity included college/school students, teachers, NGO’s, women organisations, village representatives, etc. The salient objectives of this initiative were (i) to promote conservation science among target groups, (ii) to impart on-site training on collection, storage, preservation and propagation methods of target plant species including medicinals and plants of edible value, and (iii) to develop preservation models in village community lands depicting local biodiversity. The response of the participants was quite encouraging. As a follow up, community land of over 3ha and college campus land of about 5ha has been taken up for development through active participation of students and teachers.

The Institute is also engaged in developing ex-situ conservation methods of selected high altitude medicinal plants of the Himalaya. Initially, the studies focus on Podophyllum hexandrum, Aconitum heterophyllum, A. balfouri, Picrorhiza kurrooa and Nardostachys jatamansi.

Efforts are being made to overcome constraints in propagation through improved nursery practices and application of biotechnology. This project is sponsored by the Department of Biotechnology, Government of India.

Dr. U. Dhar, G. P. Pant Institute of Himalayan Environment & Development, Kosi-Katarmal, Almora 263643, India, Fax: 0091/5962/22100

Medicinal Plant Market Study in Germany - State of Project

Dagnar Lange

On behalf of and in co-operation with the CITES Scientific Authority, this project was launched in 1994 to investigate the trade in medicinal plants in Germany and its impact on the plant species involved. This survey showed that Germany is the largest importer of medicinal plants in Europe. Besides this, German traders also supply the pharmaceutical and herbal medicine companies in many other parts of Europe.

In the last 3 years an average of about 40,000 tons of “drugs” with a value of about DM 160 million were imported into Germany every year. They originated from 109 different countries. The largest exporter was found to be India, followed by Bulgaria, Poland, Sudan, Chile, Hungary, Argentina and Albania.
Approximately 1/3 of the imported material is re-exported, mainly as finished plant-based products, destined mainly to the western European countries and the USA.

Most of these drugs are imported to Germany almost exclusively by about 20 drug-trading companies. Additionally, only a few of the largest pharmaceutical and herbal medicine companies and some smaller companies, trading with Chinese drugs or with organic products also import directly. Transactions are arranged by only 7 big drug agencies.

In total, more than 1,500 plant species were found to be used or manufactured in Germany and most of these are regularly imported. About 70-90% are still primarily wild-harvested. Very few drugs (50-100) are produced from species propagated on a large scale.

The project is on-going and will in its current phase collect precise data concerning the sources of these plants and on their threat status.

Request for information: Information on trade volumes and on the population status of taxa in international trade with destination to Germany would be highly welcomed by the author.

Dr. Dagmar Lange, Jahnstrasse 16, D-71642 Ludwigsburg, Germany, Tel. & Fax: ++49/7144/92804

The Silphion Project

Alison Denham

The Silphion Project has been set up to research and develop the cultivation of northern temperate medicinal plants thereby alleviating pressure on genetic diversity of wild populations caused by collection. Loss of any genetic strains may diminish the species' ability to evolve in response to future environmental change.

North American medicinal plants are emphasised as these have been prescribed by Medical Herbalists in Britain for the last 150 years. Most are available commercially only from the wild.

The Project is creating a botanical reference collection, the only one of its kind in Britain, of the sixty North American medicinal plants in the British Herbal Pharmacopea, of allied species and of taxa which were formerly official. This is sited at Brackenhurst Agricultural College, an associate College of Trent University, Nottingham. The site is designed as American woodland and work is in progress on propagation and site preparation. It is to be open to the public.

Many North American medicinal plants are natives of the Eastern Deciduous Woodlands. They are slow growing, have specific habitat requirements and are rarely seen in gardens. We are planning cultivation trials for Caulophyllum thalictroides, Chamaelirium luteum, Cimicifuga racemosa, Hydrastis canadensis, Symlocarpus foetidus and Ulmus rubra. It is essential to maximise and maintain the genetic diversity of our stock. We are grateful to the US seed collectors who have helped us and through whom we have started a propagation programme.

We have initiated adopt-a-plant schemes for individuals and institutions to grow one or more of these species. This will be important to the success of the Project as it will highlight optimum cultivation conditions in Britain. It will enable us to maintain the purity of different genetic strains.

A database is being developed on the taxonomy, ecology, population biology, and horticultural requirements of all the species in the collection and will include all records of our trials. Conservation status, collection in the wild and relevant legislation will be included in the database.

We intend to publish a Newsletter and act as a resource centre on the conservation and cultivation of temperate medicinal plants.

Alison Denham, 66 Victoria Gardens, Horsforth, Leeds LS18 4PH, United Kingdom

WAINIMATE - Save the Plants that Save Lives

Kerrie Strathy

The Women's Association for Natural Medicinal Therapy, commonly known as WAINIMATE (‘Wai ni mate’ means medicine in Fijian), was formed to promote the practice of traditional medicine, and to promote the conservation of medicinal plants in Fiji. The decision to form the group was made by Fiji participants at the first regional women's traditional medicine workshop held in August 1993. The women received assistance from SPACHEE (South Pacific Action Committee for Human Ecology & Environment) and the Forestry Department - organisers of the workshop - in their efforts.
In May 1994, Fiji participants from the regional workshop met to review follow-up activities undertaken as part of a campaign to *Save the Plants that Save Lives*. They decided to produce a Fijian handbook to document safe and effective traditional medicines, and to establish demonstration gardens.

In early 1995 members of the WAINIMATE assisted SPACHEE and the Forestry Department to carry out a series of four Divisional Workshops to involve more women in the campaign. They also helped to organise the 2nd Regional Women’s Traditional Medicine Workshop which brought together women from seven other Pacific island countries.

Another series of traditional medicine conservation workshops was organised in October and November, with WAINIMATE playing a lead role. As a result of these workshops traditional medicine conservation and promotion groups are being formed throughout Fiji. On 22nd November Nau’s Medicinal Garden was officially opened by women on Makogai Island, and more are planned to open in early 1996. Plans are also underway to produce a Fijian video to assist with the campaign, and to secure more funds to continue training activities and hire staff to coordinate activities and respond to the increasing demand for workshops.

WAINIMATE is a good example of how women can organise to protect biological resources that are important to them. For those who live in the remote areas of larger islands or on small islands traditional medicine is often the only available medicine. If women can work together to protect these valuable resources they can be a safe, effective and affordable means of achieving health for all by the year 2000!

*Kerrie Strathy, WAINIMATE Advisor, c/-SPACHEE, P.O. Box 1168, Suva, Fiji Islands, Tel ++679/312-371, Fax ++679/303-053, 302-548*

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**CITES News**

*Uwe Schippmann*

The 6th CITES Plants Committee Meeting was held from 19-25 June 1995 at Puerto de la Cruz (Spain). Medicinal plant conservation issues are now a standard item on the agenda of CITES’ highest body for plant decision making.

Presently, nine medicinal plant species are listed in the CITES Appendices due to over-exploitation (see table). Additional taxa with medicinal plant trade capacity have been included unintentionally through the higher taxon listings of Orchidaceae, Cactaceae etc.

<table>
<thead>
<tr>
<th>Taxon</th>
<th>App.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aquilaria malaccensis</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Dioscorea deltoidea</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Panax quinquefolius</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Podophyllum hexandrum</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Prunus africana</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Pterocarpus santalinus</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Rauvolfia serpentina</em></td>
<td>II</td>
</tr>
<tr>
<td><em>Saussurea lappa</em></td>
<td>I</td>
</tr>
<tr>
<td><em>Taxus wallichiana</em></td>
<td>II</td>
</tr>
</tbody>
</table>

The 9th CITES Conference of the Parties has commissioned the Plants Committee to carry out a *Significant Trade Study* for these medicinal plant taxa protected by CITES. The aim of this study is to (a) collect trade volumes, (b) find out which parts and derivatives form the major trade commodities, (c) review implementation problems, and (d) formulate recommendations. Uwe Schippmann was appointed co-ordinator of this study. It will be carried out in 1996-1997 through funding by the German Ministry of Environment.

Four of the CITES medicinal plant taxa are new additions to Appendix II, when in 1994 Kenya proposed listing of *Prunus africana*, and India proposed listing of *Pterocarpus santalinus*, *Aquilaria malaccensis* and *Taxus wallichiana*. In order to help implement these listings, proposing countries should produce identification materials. Thus far, this requirement has not been fulfilled for any of the species. For *Prunus africana*, Christine Kabuye (National Herbarium, Kenya) and Nina Marshall (TRAFFIC East/Southern Africa) are collaborating in the preparation of identification help sheets for the customs officials.
The official minutes of the Plants Committee meeting can be obtained through the CITES Secretariat (15, Chemin des Anémones, CH-1219 Chatelaine, Genève, Switzerland).

**Request for proposals:** In June 1997, the 10th CITES Conference of the Parties will be held in Zimbabwe. The deadline for submission of proposals is 10 January 1997. If you are aware of medicinal plant taxa which merit a CITES listing, please contact the author for further information. Data on (i) international trade data and (ii) population status of the taxon concerned must be available to draft a scientifically based proposal in the required format. Since the last COP, new criteria for the amendment of the Appendices are in force. Please note that any proposal has to be put forward by a government.

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**Recent Events**

**CAMP Workshop: Plants under Threat - New List Forged**

*Vinay Tandon*

Conservation Assessment Management Plans (CAMP) assign a degree of threat to a species and recommend specific conservation action for that species. One of the results of the CAMP workshop held in Bangalore in February 1995 was to assign threat status to a list of 36 carefully selected South Indian medicinal plants and to mark them for priority conservation action in India (Threat categories: draft version 2.2, MACE & STUART 1994, Species 21-22: 13-24).

The workshop was jointly organised by the Foundation for Revitalisation of Local Health Traditions (FRLHT), Bangalore, and the Zoo Outreach Organization (ZOO), Coimbatore. It was facilitated by Ullyses S Seal, Chairman of the IUCN/SSC Conservation Breeding Specialist Group.

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>IUCN threat Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhatoda beddomei C. B. CLARKE</td>
<td>CR</td>
</tr>
<tr>
<td>Aerva wightii HOOK. f.</td>
<td>DD</td>
</tr>
<tr>
<td>Ampelocissus araneosa PLANCH.</td>
<td>VU</td>
</tr>
<tr>
<td>Aristolochia bracteata LAM.</td>
<td>LR</td>
</tr>
<tr>
<td>Aristolochia tagala CHAM.</td>
<td>VU/N</td>
</tr>
<tr>
<td>Asparagus rotleri BAK.</td>
<td>DD</td>
</tr>
<tr>
<td>Buchanania lanzan SPRENG.</td>
<td>DD</td>
</tr>
<tr>
<td>Cleome burmannii WIGHT &amp; ARN.</td>
<td>DD</td>
</tr>
<tr>
<td>Commiphora mukul ENGL.</td>
<td>VU/R</td>
</tr>
<tr>
<td>Cocsinum fenestratum (GAERTN.) COLEB.</td>
<td>CR</td>
</tr>
<tr>
<td>Cycas cincinnalis L.</td>
<td>VU/N &amp; CR/R</td>
</tr>
<tr>
<td>Cyclea fissionaria DUNN. D.</td>
<td>EN</td>
</tr>
<tr>
<td>Elaeagnus conferta ROXB.</td>
<td>LR</td>
</tr>
<tr>
<td>Embelia ribes BURM. f.</td>
<td>LR</td>
</tr>
<tr>
<td>Gardenia gummifera L. f.</td>
<td>LR</td>
</tr>
<tr>
<td>Glycosmis macrocarpa WIGHT.</td>
<td>LR</td>
</tr>
<tr>
<td>Holostemma annulare (ROXB.) K.</td>
<td>VU</td>
</tr>
<tr>
<td>Hydnectus arboricola WIGHT.</td>
<td>VU</td>
</tr>
<tr>
<td>Kaempferia galanga L.</td>
<td>CR/R</td>
</tr>
<tr>
<td>Kingiodendron pinnatum (DC.) HARTMS.</td>
<td>EN</td>
</tr>
<tr>
<td>Madhuka diplodemon (C.B. CLARKE) ROYEN</td>
<td>EN</td>
</tr>
<tr>
<td>Madhuka insignis (RADLK.) LAM.</td>
<td>EX</td>
</tr>
<tr>
<td>Myristica malabarica LAM.</td>
<td>EN</td>
</tr>
<tr>
<td>Ochreinauclea missionis (WALL ex G. DON) RIDSDALE</td>
<td>VU</td>
</tr>
<tr>
<td>Operculina turpethum (L.) SILVA MANSO</td>
<td>LR</td>
</tr>
<tr>
<td>Piper barberry GAMBLE</td>
<td>CR</td>
</tr>
<tr>
<td>Piper longum L.</td>
<td>LR</td>
</tr>
</tbody>
</table>
**Plectranthus vettieroide** (Jacob) Singh & Sharma

<table>
<thead>
<tr>
<th>Scientific Names</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pterocarpus santalinus</em> L.</td>
<td>EW</td>
</tr>
<tr>
<td><em>Rauvolfia serpentina</em> Benth.</td>
<td>EN</td>
</tr>
<tr>
<td><em>Saraca asoca</em> (ROXB.) Willd.</td>
<td>VU/N &amp; EN/R</td>
</tr>
<tr>
<td><em>Syzygium travancoricum</em> Gamble</td>
<td>CR</td>
</tr>
<tr>
<td><em>Trichopus zeylanicus</em> Gaertn.</td>
<td>CR</td>
</tr>
<tr>
<td><em>Uteria salicifolia</em> Beddome</td>
<td>CR</td>
</tr>
<tr>
<td><em>Vateria indica</em> L.</td>
<td>LR</td>
</tr>
<tr>
<td><em>Woodfordia fruticosa</em> (L.) Kurz.</td>
<td>LR</td>
</tr>
</tbody>
</table>


N or R denotes the status of the species at a national or regional level.

Over 15,000 species of higher plants have been recorded so far in India, of which 2,100 species have been listed as endemics for the country. 1,193 of these endemic species (57%) are restricted to Southern India. According to an ongoing study of the Ministry of Environment and Forests, GOI, entitled *All India Coordinated Research Project on Ethnobiology*, 7,500 species of higher plants of India have been recorded to have medicinal value. Of these, FRLHT has shortlisted over 1,200 which are found in Southern India.

95% of medicinal plants raw material for herbal pharmaceuticals and for export is collected from the wild. This collection is generally destructive. In India, cultivation has been standardised for only 40 species by CIMAPS, Lucknow, and ICAR, New Delhi. In actual practice, however, very few species are commercially grown on large scale.

As a threat to medicinal plants in the wild general factors like habitat loss, population pressure, habitat fragmentation etc. also apply. That many medicinal plants are under severe threat can be gauged from the fact that a growing number of species are being substituted in herbal preparations.

FRLHT is currently engaged in medicinal plants in the three South Indian states of Kerala, Karnataka and Tamil Nadu, which are still covered by extensive forest areas. From the viewpoint of biodiversity richness, southern peninsular India is outstanding. The south southwestern ghats have been included in the IUCN list of 18 global biodiversity “hotspots”.

Thus, there is a need for a comprehensive conservation strategy considering the medicinal plant diversity in the three states. The objective is not only to strengthen the resource base of traditional systems, but also to boost the use of medicinal plants in primary health care.

One of the basic tools that can guide any conservation initiative is a priority list of plants that are under threat. The FRLHT has drawn up a first priority list of medicinal plants of the region based on following criteria: Record of the species in the Red Data Book on Indian Plants published by the Botanical Survey of India; due weightage to endemic species of the region; species which are in high industrial demand and species recorded as rare by various authorities. The resulting list compiles 285 species of medicinal plants covering the three states of the region.

Information on the degree of threat are still very scarce. The *Red Data Book of Indian Plants* (Botanical Survey of India, 1987) lists only 15 South Indian medicinal plants. The *World Conservation Monitoring Centre* (Cambridge) database lists 41 threatened Indian medicinal plants. A detailed report of the CAMP meeting can be purchased by contacting FRLHT.

*Vinay Tandon, FRLHT, 50 MHS Layout, 2, stage, 3, Main, Anandnagar Bangalore 560 024, India, Fax: 0091/80/333-4167*

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**Stop Press!**

Bangalore 12.-14. February 1996

The second CAMP workshop (CAMP II) for assigning IUCN threat status to another 44 species of South Indian medicinal plants has been held. The workshop was supported, among others, by MFSG. Mr Michael Maunder of RBG, Kew, facilitated the workshop. Over 25 botanists, foresters, research scientists participated in CAMP II. Two species were recorded as extinct / extinct in the wild, four as critically endangered, five as endangered and sixteen as vulnerable. The detailed report of CAMP II will be available with FRLHT in mid April 1996.
First Coordination Meeting of European Medicinal Plant Conservation Projects

Dagmar Lange

On 5 October 1995, a meeting of European experts of medicinal plant conservation took place in Brussels (Belgium), attended by 10 persons from 4 different countries. The meeting was hosted by TRAFFIC Europe. The intention of this meeting was to coordinate on-going medicinal plant conservation projects, continuing a discussion started during the Planta Europa conference, 2-8 September 1995, Hyères (France). Then, the idea was born to collect precise data concerning the trade, its volumes, and the sources of medicinal plants, and the population impacts of the species involved. Exchange and cross-reference of the available data can lead to more transparency of this still largely unmonitored trade and can help to better implement appropriate conservation action in this field.

During the meeting, participants reported on current or on future medicinal plant projects: Dagmar Lange (consultant Bundesamt für Naturschutz; Germany) outlined her work on the medicinal plant trade into Germany (see report in this issue), Fiona Dennis (consultant TRAFFIC Europe; United Kingdom) spoke about her literature search, and Chris Leon (Poisons Unit, Guy's Hospital/Royal Botanical Gardens Kew, United Kingdom) introduced the Traditional Remedies Surveillance Project. Further, Tom De Meulenaer explained the projects of TRAFFIC Europe (i) to look at the trade in traditional Chinese medicinal products (animals and plants) and (ii) to investigate the medicinal plant trade especially in the European Union and Eastern Europe. Lothar Schillak (WWF-Germany) expressed the interest of WWF to broaden their remit to medicinal plant issues. At last, Uwe Schippmann introduced the projects carried out by the German CITES Scientific Authority.

As a result of this meeting it was agreed to establish a working group on medicinal plant conservation in Europe, consisting of national experts representing as many different individual European countries as possible. The role of this - up to now - informal group is to act as a focal and coordination point for collection and dissemination of information on this trade and on the plant species involved. It was decided to nominate Dagmar Lange as the coordinator of this group.

If you are interested in joining this group as a European expert of medicinal plants with conservation interests you are invited to contact the author to receive more information.

Dr. Dagmar Lange, Jahnstrasse 16, D-71642 Ludwigsburg, Germany, Tel. & Fax: ++49/7144/92804

Gentiana lutea
Conferences and Meetings

1-6 July 1996, Plants for food and medicine. Joint meeting of the Society for Economic Botany and International Society for Ethnopharmacology, Imperial College / The Natural History Museum, London and Royal Botanic Gardens, Kew. (Enquiries: The Linnean Society, Burlington House, Piccadilly, London W1V 0LQ, United Kingdom, fax: 44-171-287 9364, e-mail: marquita@linnean.demon.co.uk)

2-6 September 1996, 5. International Congress of Ethnobiology, Nairobi, Kenya. The Congress has its broad theme as “Ethnobiology and Conservation of Cultural and Biological Diversity”. Many topics will be covered including ethnobiology inventories, research methods, recognition and use of indigenous knowledge in development, application of ethnomedicine, policy issues that relate to community resource rights touching on researchers, industry and policy makers. There will be a number of exhibitions including those by herbalists. (Enquiries: Christine Kabuye, National Museums of Kenya, P O Box 45166, Nairobi, Kenya, fax: 254-2-741 424, e-mail: biodive@tt.gn.apc.org)

11-12 October 1996, Meeting of IUCN Species Survival Commission, Montreal, Canada. (Enquiries: Dr. George Rabb, c/o Chicago Zoological Society, Brookfield, IL 60513, fax 1/708/485-3532)


10-15 November 1997, 2nd World Congress in Medicinal and Aromatic Plants (WOCMAP II), Mendoza, Argentina. (Enquiries: Prof. Dr. A. L. Bandoni, SALPA, Libertad 1079, 1012 Buenos Aires, Argentina, fax: 54-1-9617637)

Reviews and Notices of Publication

A.B. Cunningham

This new annex of the MPSG Newsletter is not meant to be an exhaustive list of publications that relate to medicinal plants conservation, but rather a cross-section of recent references that draw MPSG members attention to “cutting edge” issues and methods that could be more widely applied. All reviews not signed are by the column editor (ag = Andreas Gröger, schp = Uwe Schippmann). Since we would very much like to present the publications of our members in future issues, we would appreciate receiving reprints for review, preferably sent to the Newsletter editors’ address.


This report summarises the results of a meeting which brought together selected practitioners, social scientists and development professionals from Bangladesh, Nepal, India and Sri Lanka, highlighting research priorities and issues of socially responsible research. It contains some useful preliminary lists of medicinal plant species considered to be endangered in Bangladesh, Nepal, India and Sri Lanka.

Authors address: International Development Research Centre, Canada, 17, Jor Bagh, New Delhi, 110 003, India.


Studies of the uses of plants are becoming increasingly important and the standardization of terms and a unified system to describe uses would be of enormous benefit to gatherers of information. The aim of the standard which was prepared for the International Working Group on Taxonomic Databases for Plant Sciences (TDWG) is to provide a system whereby uses of plants can be described, using standardized descriptors and terms. The standard recognizes three levels, the first two are coded with a four-digit number. Level one states range from “food” to “fuels” and “medicines” including unusual terms like “bee plants” or

30 April 1996

The volume represents the proceedings of a workshop with the same topic, held at Srinagar (Garhwali) in October 1992 by the G. P. Pant Institute of Himalayan Environment & Development. It comprises 42 articles, separated by focal groups of organisms and focal areas. Several contributions refer to medicinal plants, e.g. Resource survey of the pharmacetically important plants of Uttar Pradesh Himalaya (G. C. Joshi, K. C. Tewari, R. N. Tewari, N. K. Pandey & G. Pandey). Besides scientific and vernacular names, their comprehensive listings provide information on distribution, extent of cultivation respectively collection from the wild, and the threat status. Although conservation strategies are part of the topic, aspects of application of the workshop's results are under-represented. Therefore, the proceedings have to be taken as a very useful basis for forthcoming policy and implementation concepts. For editor's address see report of U. Dhar in this issue. [ag]


This paper provides a useful perspective on the impact and concerns about commercial harvesting of medicinal plants in the northern hemisphere. About 70 indigenous medicinal plant species are sold in North America, yet few data are available on sustainable yields. Concern is expressed about species in the genera Echinacea (Asteraceae), Hamamelis (Hamamelidaceae), Podophyllum (Berberidaceae), Panax quinquefolius (Araliaceae) and Taxus (Taxaceae). Useful examples are given of several species being sold under a single trade name (such as several Echinacea species sold as "Kansas arrowroot"). The paper also compares quantities and values of Panax quinquefolius root exported from cultivated (1070.3 tons, US$ 54.3 million) and wild sources (92.2 tons, US$ 18.9 million) in the USA.

Authors address: Steven Foster, American Botanical Council, P.O. Box 106, Eureka Springs, Arkansas, 72632, USA.


This study was divided into two stages, first, work and interviews with medicinal plant gatherers and traders and second, a focus on six medicinal plant species selected due to their common sale and frequent destructive harvesting: Hermangium excelsum, Selaginella lepidophylla, Haematoxylum brasiletto, Amphipterigma adstringens, Hintonia laiflora and Simira mexicana.

The study has led to a detailed understanding of the dynamics of trade which are necessary to understand if medicinal plants conservation problems are to be resolved, including adulteration of ingredients, such as Cyrtocarpa procera mixed in with Amphipterigma adstringens and Comocladia mollisima. Gatherers, who generally had low levels of formal education and few other economic options only "earned", on average, 6.17% of the consumer price for the medicinal plants they sold. Trade extended from Mexico to as far away as beauty shops in Los Angeles, USA. Declining availability of wild gathered medicinal plants over the past 10-15 years is widely recognised.

Authors address: Paul Hersch-Martinez, Centro Regional Morelos, Instituto Nacional de Antropología e Historia, Matamoros 200, Acapatzingo, Cuernavaca, Morelos 62440, Mexico.
district, where traditional healthcare is still widely practised. The article attracts by precise methodology, resulting in a representative enumeration of 81 herbal drugs, used for 22 types of diseases. Their scientific and Nepali names are given, together with a short description of drug preparation and application. This survey is completed by references to therapeutic uses in other parts of the country, pointing out medicinals exclusively regionally applied. Finally Manandhar emphasizes the risk of loss of herbal knowledge caused by the rapid deforestation in the country (2.1% per year).

Authors address: Narayan P. Manandhar, National Herbarium & Plant Laboratories, P.O. Box 3389, Kathmandu, Nepal.


The word “muti” is a corruption of the Zulu word “umuthi” which means both “tree” or “medicine” and is a term common to many Bantu languages in the area centred around Johannesburg, South Africa. Informal sector gatherers and hawkers as well as formal sector traders are involved. A very interesting aspect of this study is that it documents the changes that have taken place in this trade over a short period of time, e.g. the increase in the number of gatherers selling herbs at an open market from 10 people in 1992 to 100 people in 1994, with a decline in the number of gatherers selling to herbal medicine traders. The five species most commonly stocked by traders are Artemisia afra, Scilla natalensis, Thesium spp., Kowaiotina bracteata and Eucomia autumnalis, but the five fastest selling species which are sold at least once a day, are Helichrysum spp. leaves/stems/flowers, bulbs of Drimia elata and Scilla natalensis, Walpurgia salutaris bark and Scabiosa columbaria roots. Traders acknowledge increasing scarcity of Siphonochoilus aethiopicus, Bowela volubilis, Ocotea bullata and the cymad Stangeria eriopus. For author’s address see list of members.

The Sixth NAPRECA (Natural Products Research Network for Eastern and Central Africa) Symposium was held at Makerere University, Uganda 10 - 15 September 1995. The local organiser was Dr. Olwa Odyke, Chairman Organising Committee, Dept Pharmacy, Makerere University, P.O. Box 7062, Kampala, Uganda.

Extended abstracts were published and provided to those attending the conference, giving a useful overview of work in the chemistry and pharmacology fields in Eastern, Central and southern Africa, including a few papers and posters relevant to medicinal plants conservation. Examples in these September 1995 proceedings, giving page numbers and authors addresses are:

Bukenya-Ziraba, R. 1995. Solanum species used in traditional medicine in Uganda (paper, p. 103-104). This paper outlined the uses of Solanum species used in Uganda, summarising detailed information in the authors recent PhD thesis on the vernacular names, uses and parts used of 27 species of Solanum.

Authors address: Dr. R. Bukenya Ziraba, Dept Botany, Makerere University, P.O. Box 7062, Kampala, Uganda.

van Wyk, B. E. 1995. Aloe ferox as a natural resource (poster, p. 137), which outlines an ongoing study on the geographical variation in the chemistry of the exudate, which is an important export (“Cape Aloes”) to Europe from South Africa. A long-term provenance trial of 1 hectare has been established on a randomised block design using 36 geographically representative populations of Aloe ferox. Although leaf harvesting is intended to be sustainable, there are cases where overexploitation occurs and the study is aiming to identify superior provenances for selection and commercial cultivation. MPSG members may also be interested to read a review on the International Trade in Aloes by S. Oldfield (TRAFFIC Bulletin, 14: 25-32, 1993).

Authors address: Professor B. E. van Wyk, Department of Botany, Rand Afrikaans University, P.O. Box 524, Johannesburg, South Africa.

Further publications of interest:


List of members

The following list of members is as of 15 April 1996. Please look through it and advise the editor on all errors. The data have been taken from the Membership Record forms. E-Mail numbers are now included in this list.

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