Ethnopharmacological Studies of Antibacterial Remedies in Yemen

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This study reports the antibacterial evaluation of selected medicinal plants used in the traditional medicine in Yemen. Ninety crude extracts, including dichloromethanic, methanolic and aqueous extracts from 30 plants used in Yemeni ethnomedicine to treat common infections, were screened in vitro for antibacterial, antifungal, antioxidant and cytotoxic activities. Three Gram-positive bacteria and two Gram-negative bacteria, have been used as test organisms. Extracts of *Acacia nilotica, A. tortilis, Commiphora foliacea, Ficus vasta, Ocimum forskolei, Plicosephalus carviflorus, Salvadora persica, Sansevieria aff. ehrenbergii, Solanum nigrum* and *Tamarindus indica* showed antibacterial activities against at least four bacterial strains. Methanolic extract of *Tamarindus indica* flowers was the most active, followed by the methanolic extract of the fruits from *Ficus vasta*. The extracts of 5 plants, e.g. *Plicosephalus curviflorus* and *Commiphora kua*, exhibited remarkable cytotoxic activities against cultivated FL cells. The results confirm the great potential of ethnopharmacological plants of Yemen and are useful for rationalizing the use of medicinal plants in primary health care in Yemen. They could be of interest also for dermatology and cosmetics.

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Phytochemical and Biological Investigations of the Yemeni Mushroom *Podaxis pistillaris*

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In the course of an ethnobotanical study on fungi used in Yemeni traditional medicine the fungus *Podaxis pistillaris* (L. Pers.) Morse (Podaxaceae, Basidiomycetes) was found to exhibit strong antibacterial activities. This fungus, occurring in semideserts of Africa, Asia, Australia, and America, is used in some parts of Yemen for the treatment of skin diseases. From the culture broth of the fungus 3 epidithioketopiperazines were isolated by a bioactivity-guided isolation process. Based on spectral data (^{1}H-, ^{13}C-NMR, ESI- and CI-MS) they were identified as epicorazine A, epicorazine B and epicorazine C. These have not been reported as constituents of *P. pistillaris* till now. The compounds possess antibacterial and cytotoxic activities.

Reference: Al-Fatimi, M., M. Wurster, R. Jansen, U. Lindequist 2006. Bioactive components of the traditionally used mushroom Podaxis pistillaris. *Journal of evidence-based Complementary and Alternative Medicine* (eCAM) 3,1: 87-92.

Medicinal and edible plants as elements of the biodiversity of the Basque Country, Spain.

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The Spanish Basque Country (20.650 sq. km) includes Álava, Vizcaya, Guipúzcoa, Navarra and a 13.450 sq. km area of France. It is located in the north of the Iberian Peninsula in a unique geological and geographical situation to the west of the Pyrenees. This results in a diversity of climates and ecosystems including the Pyrenees, the Atlantic rainy valleys, and the mountains of the dry meridional Mediterranean valleys near the Ebro River. The Basque Country has a long and multifaceted cultural history. It is one of the more fascinating regions in Spain, which has a privileged location, and it is, compared with the rest of Europe, rich in biodiversity, with around 3,500 species (compared with, for example, about 1,300 in the UK). It offers unique opportunities to study the link between biodiversity and culture, specifically with respect to the use of medicinal and food plants. In the region in general, people in the past used a large number of plants as part of their daily diet, but so far only very limited research has been conducted on this topic. The overall goal of this project is to identify local plants that have the potential for wider use as food and/or medicine. However, of equal merit is our aim of understanding the benefit and value of traditional medicines and food and the importance of the biodiversity in rural communities.

To achieve this goal we selected two little mountainous regions of Alava, a transitional region between the Mediterranean and the Atlantic Regions, with differing biodiversity (each with about 2,000 species of plants, pers. comm. Uribe Echavarria P.M.) and with considerable knowledgeabout local food and medicinal plants. We studied how the inhabitants of these regions (Izki and Valdegovia) use the flora (biodiversity) of the different landscapes, especially with respect to its local use as food and medicine, documenting both ancestral and present knowledge.

Since the start of the project in October 2006 we documented 351 collections of plants in 12 towns, corresponding to 43 families and 146 species including wild, semi cultivated and cultivated plants. The families Lamiaceae (25 species), Asteraceae (23), Rosaceae (16), Liliaceae s.l. (9) and Ericaceae (6) have so far yielded the largest number of useful species. Widely used species include *Thymus vulgaris, Melissa officinalis*, Lavandula latifolia.* (all Lamiaceae), *Jasonia glutinosa, Anthemis nobilis, Matricaria aurea, Chamaemelum nobile, Achillea millefolium* and *Taraxacum officinale* (Asteraceae), *Prunus spinosa, Malus sylvestris, Crataegus monogyna* (Rosaceae), *Allium sativum*, Allium porrum** (Liliaceae s.l.), *Arbutus unedo* and *Arctostaphyllos uva-ursi* (Ericaceae). Only three species are generally cultivated (*), the other ones are managed and commonly gathered in fields and meadows around the communities. In other cases, like *J. glutinosa*, collection from mountain regions is required.

The majority of species have more than one application and or have different preparation methods depending on whether they are to be used for food or for medicinal proposals. The two regions differ in the methods employed when preparing plants for eating, the combinations of species used, and the end-products of preparation demonstrate the differences between these two regions.

So far we have looked at two different regions in the Basque Country, the different species used reflecting differences in regional biodiversity. Under the Atlantic influence the Cantabric and Pyrenees cordilleras form special corridors and specific micro-climatic zones creating a specific ecosystem for communities of plants. The Izki region is rich in Pyrenean oak (*"robles" - Quercus pyrenaica*). European beech (*"haya"- Fagus sylvatica*) is the dominant species in the area above 750 m. Near to the beech, growing in the undergrowth strata, English box (*"boj"- Buxus sempervirens)*, whitethorn (*"majuelo"- Crataegus monogyna)*, Wineberry *arándanos* (*"arándanos"- Vaccinium myrtillus)* and other species dominate. The Valdegovia region offers a mixed forest with Portuguese oak (*Quercus faginea*) as the dominant species and European beech sharing the ecosystem with other species such as European ash (*Fraxinus excelsior*), yew (*Taxus baccata*) and sentinel pine (*Pinus sylvestris*). The local uses of these diverse ecosystems for medicines and food are currently being studied in detail by our group.

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Plantes d'intérêt ethnobotanique et ethnopharmacologique dans le Pacifique : exemple du calfatage

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Introduction L'utilisation traditionnelle de certaines plantes dans des applications très différentes s'explique parfois par la présence de substances naturelles ayant des qualités particulières. Ainsi, l'acide parinarique (à 4Δ) donne à la pulpe d'amandes d'*Atuna racemosa* Raf. (Chrysobalanaceae) des propriétés siccatives intéressantes pour le calfatage des pirogues (Vanikoro, Iles Salomon) ; un tel composé à doubles liaisons conjuguées piège les radicaux libres et sa présence justifie également l'usage cosmétique de cette espèce aux Iles Samoa. Nous avons tenté d'inventorier les recettes de calfatage dans le Pacifique, pour en évaluer le potentiel, de manière à replacer notre démarche dans un cadre plus général d'ethnobotanique.

Objectifs En décembre 1999, une enquête à Vanikoro, lieu de naufrage de La Pérouse en 1788, apprend à l'un de nous (PC) que deux plantes de l'île de Vanikoro sont utilisées pour calfater les pirogues, l'une étant inconnue en Nouvelle-Calédonie, et l'autre tout à fait banale pour nous, l'arbre à pain (*Artocarpus altilis* Fosberg, Moraceae). Le mélange binaire obtenu est réputé très efficace, assurant à la fois étanchéité et souplesse, probablement pour des raisons chimiques. La première espèce, déterminée à Nouméa comme *Atuna racemosa* Raf. est présente depuis la péninsule malaise jusqu'aux Iles Samoa. La sous-espèce *Atuna racemosa* subsp. *racemosa* est la seule qui pousse des Philippines à la Papouasie Nouvelle-Guinée et

jusqu'aux Iles Samoa (Prance 2004). De Fidji, elle a probablement été introduite à Wallis et Futuna, aux îles Tonga et Samoa, lors des migrations de peuplement de ces îles (Clarke & Thaman 1993).

Méthodologie La recherche de l'information s'est faite sur les mots *calfatage*, *calfater* dans diverses langues (*caulk, caulking, calafatear, kalfatern*, …) sur "*Atuna racemosa*" et ses noms synonymes (*Cyclandrophora, Parinari, Parinarium),* dans des dictionnaires de langues océaniennes (à partir de leur répertoire dans la base *ethnologue.com*) et nous avons aussi utilisé certaines de nos données (Nouvelle-Calédonie, Ile de Pâques …).

Résultats préliminaires (B. Bryophytes, G. Gymnospermes, M.: Monocotylédones, D. : Dicotylédones)

Nb d'espèces	**Produits de calfatage**	**Matériaux de remplissage**	**Diagnostic et outils**
2 G. + 2 M. + 12 D.	**16**		
4 M. + 6 D. + 1 B. [+ 1 sciure + 1 terre]		**11** fibres + **1** divers	
2 M. + 1 D.			**2** diagnostics d'étanchéité + **1** outil

A elles seules, 4 espèces (dans l'ordre *Artocarpus altilis, Atuna racemosa, Pandanus tectorius et Cocos nucifera*), rassemblent 22 mentions d'utilisation, tandis que les techniques de Rapa Nui ne se retrouvent dans aucune autre île. *Gardenia urvillei* a fait l'objet d'une étude récente (Grougnet & al. 2006) tandis que les autres espèces utilisées pour leur résine sont à explorer ou à ré-étudier. Cabalion@noumea.ird.nc

Pacific plants with ethnobotanical and ethnopharmacological interest: example of plants used for caulking

Introduction The traditional utilization of plants for different applications may be explained by the presence of natural substances with particular properties. Thus, parinaric acid (with 4Δ) in the kernels from *Atuna racemosa* Raf. (Chrysobalanaceae) gives to the putty made of this species siccative properties for caulking canoes (Vanikoro Is., Solomon Islands). Such a compound with conjugated double bonds can also play a biological role as a free radicals scavenger; its presence in *A. racemosa* kernels justifies a cosmetic use of this species, as reported from Samoa Islands. We tried to survey caulking recipes from the Pacific, with the aim to evaluate their potential. We thus wish to place our approach in a more general ethnobotanical frame.

Objectives An investigation made in Vanikoro, where La Perouse ships were lost in 1788, learned to one of us (PC, Dec. 1999) that two local plants were used to caulk canoes. The first is unknown in New Caledonia, the second is very common for us, breadfruit (*Artocarpus altilis* Fosberg, Moraceae). The binary putty obtained is deemed very effective, providing both flexibility and watertightness, probably for chemical reasons. The first species, determined as *Atuna racemosa,* is present from the Malay Peninsula to the Samoa Islands. Subsp. *racemosa* is known from the

Philippines to Papua New Guinea and the Samoa (Prance 2004). From Fiji, it was probably introduced by man to Wallis & Futuna, Tonga and Samoa, during ancient migrations to these islands (Clarke & Thaman 1993).

Methodology Information was searched through the words *caulk, caulking,* in several languages (*calfatage*, *calfater*, *calafatear, kalfatern*,…), "*Atuna racemosa*" and synonyms (*Cyclandrophora, Parinari, Parinarium),* in dictionaries of Pacific languages (identified through *ethnologue.com*) and we also used some of our own data (from New Caledonia, Easter Island, …).
First results (B.: Bryophytes, G.: Gymnosperms, M.: Monocotyledons, D.: Dicotyledons)

Nb of species	**Caulking putty**	**Filling up fibers & miscellaneous material**	**Diagnostic & tools**
2 G. + 2 M. + 12 D.	**16**		
4 M. + 6 D. + 1 B. [+ 1 sawdust + 1 special dirt]		**11** fibers + **1** miscellaneous	
2 M. + 1 D.			**2** watertighness diagnostic + 1 tool

To four species *Artocarpus altilis, Atuna racemosa, Pandanus tectorius and Cocos nucifera*, correspond 22 mentions of uses, while Rapa Nui techniques do not seem to be known nor used elsewhere. *Gardenia urvillei* was recently studied (Grougnet & al. 2006), but other species used in caulking putties might also be interesting to explore or to study again. >Dr. Pierre Cabalion Cabalion@noumea.ird.nc

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Parkinsonismes atypiques causés par les Annonaceae: données phytochimiques et neurotoxicologiques.

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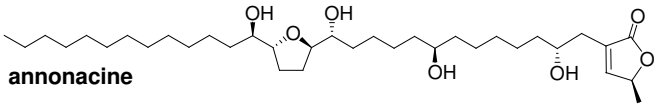
Les syndromes parkinsoniens atypiques sont anormalement fréquents dans les Antilles Françaises. Ils ont été liés épidémiologiquement à la consommation de plantes de la famille des Annonaceae, à des fins alimentaires ou médicinales, suggérant une possible étiologie toxique. [1] Un fractionnement bioguidé de feuilles d'*Annona muricata* (soursop, guanabana, graviola, corossolier)



annonacine

a montré que les acétogénines d'Annonaceae, comme l'an-nonacine, sont des neurotoxines potentielles. L'assertion a été vérifiée *in vitro* [2] (cultures primaires mésencéphaliques et striatales) et *in vivo* (intoxication i.v. continue chronique de rats [3] et s.c. de souris : dégénérescence du mésencéphale et des ganglions de la base). Nos travaux actuels montrent que dans des cultures neuronales, les acétogénines induisent une redistribution de la protéine Tau phosphorylée et un effondrement des microtubules. [2] Ces données sont réminiscentes des observations post-mortem chez les animaux traités et chez les patients autopsiés.
De plus, des concentrations importantes d'acétogénines ont été observées dans la pulpe ou des jus de plusieurs espèces du genre *Annona* species [4] (*A. muricata*, 15 mg/fruit ; *A. squamosa* ; *A. purpurea*), alors que les infusions de feuilles ne contiennent que quelques microgrammes de ces molécules. La consommation alimentaire d'Annonaceae constitue donc une source majeure d'exposition à des neurotoxines environnementales. La distribution géographique de ces pathologies ne semble pas restreinte aux Antilles : une forte incidence de parkinsonismes atypiques potentiellement associés aux Annonaceae est rapportée en Nouvelle-Calédonie, dans des communautés indiennes et afro caribéennes à Londres et sur l'île de Guam (Micronésie). Ce problème de santé publique pourrait ainsi être mondial, et nécessite une rapide réévaluation épidémiologique. [5]

Atypical Parkinsonism Induced by Annonaceae: Phytochemical and Neurotoxicological Data.

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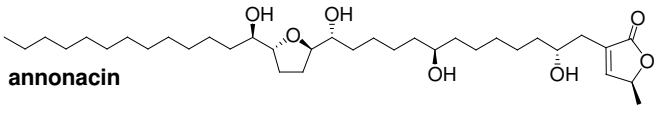
Atypical parkinsonian syndromes are abnormally frequent in the French West Indies. They were linked epidemiologicaly to the consumption, for alimentary and medicinal means, of plants of the Annonaceae family, suggesting a possible toxic etiology. [1]
Bioguided fractionnation of the leaves of *Annona muricata* (soursop, guanabana, graviola, corossolier) showed annonaceous acetogenins, such as annonacin, to be neurotoxicants. This was verified *in vitro* [2] (primary striatal and mesencephalic cultures) and *in vivo* (continuous chronic i.v. intoxication of rats,[3] s.c. intoxication of mice: Degeneration of basal ganglia nuclei and of mesencephalon). Our actual works show that in neuronal cultures, acetogenins induce redistribution of phosphorylated Tau protein and disruption of microtubule networks.[2] These data are reminiscent of post-mortem observations in treated animals and patients at autopsy.



annonacin

Nevertheless, important concentrations of acetogenins were observed in pulps and fruit juices of several *Annona* species [4] (*A. muricata*, 15 mg/fruit ; *A. squamosa* ; *A. purpurea*), whereas leaves tea only contain microgrammes of these molecules. Alimentary consumption of Annonaceae species would therefore be a major source of exposure environmental neurotoxins. Geographical distribution of these patho-

logies does not seem to be restricted to the French West Indies: High incidence of atypical parkinsonisms associated to Annonaceae are reported in New Caledonia, in indian and afro-carribean communities in London, and on the island of Guam (Micronesia). This public health issue could therefore constitute a worldwide problem, which urgently needs epidemiological reassesment.[5]

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Comparison of the efficacy of ferulic acid ethyl ester (FAEE) and octylmethoxycinnamate using in topical photoprotection

*B. Choquenet, C. Couteau, E. Paparis, L. J. M. Coiffard**

Topical sunscreens have been used for many years on exposed areas to protect the skin from the damaging effects of ultraviolets. If the sunscreens were essential, it is known that they have adverse effects such as estrogenic activity and photoallergenicity. So, we chose to study ferulic acid ethyl ester (FAEE) as agent which could potentially be used in sunscreens. Incorporated in O/W creams, at a concentration of 10%, FAEE give a Sun Protection Factor (SPF) much higher to that of octylmethoxycinnamate, a filter permitted in EU.

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Dévéloppement de l'ethnobotanique dans le Nord de Madagascar. Contribution à l'étude ethnopharmacologique de *tetracera madagascariensis* WILLD. ex SCHLECHT. (Dilleniaceae) et de *mascarnhasia arborenscens* D.C. (Apocyanaceae)

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Actuellement, dans certains pays en développement comme Madagascar, la médecine traditionnelle fait souvent appel à l'utilisation de plantes ou d'extraits végétaux pour lutter contre différentes pathologies. Une grande partie de la population n'a toujours pas accès à la médecine conventionnelle, la préservation et la valorisation des plantes médicinales ainsi que les savoirs traditionnels concernant leurs usages est une priorité de santé. Ainsi l'intérêt pour l'ethnopharmacologie peut apporter des contributions originales dans l'élaboration de la pharmacopée d'une région enquêtée. Dans ce contexte, la faculté des sciences de l'université d'Antsiranana en collaboration avec

l'association « Jardins du monde » a effectuées enquêtes ethnobotaniques dans la région Nord de Madagascar, auprès de tradipraticiens et de groupements de femmes, dans trois villages (Ankingameloka, Sadjovaoto et Madirobe) situés dans la région de Diana. De ces enquêtes ethnobotaniques, deux plantes ont été sélectionnées afin de justifier leur usage traditionnel : ***Tetracera madagascariensis*** **Willd. ex Schlecht.** de la famille des *Dilleniaceae*, espèce endémique de Madagascar et ***Mascarenhasia arborescens*** **D.C.** de la famille des *Apocynaceae.*

Nous avons réalisé au laboratoire sur ces deux plantes des extractions successives par des solvants de polarité croissante. L'activité cytotoxique des extraits hexaniques, chlorométhyléniques et méthanoliques a été évaluée sur cellules leucémiques P388. Aucun des extraits bruts testés ne présente d'effet inhibiteur ≥ 50% sur la prolifération cellulaire. L'étude phytochimique et pharmacologique a été poursuivie sur les extraits chlorométhyléniques des deux plantes. Leur effet vasorelaxant a tout d'abord été évalué. L'extrait chlorométhylénique de *Tetracera madagascariensis* sur la trachée isolée de cobaye précontractée par l'histamine à 2.10^{-5} M montre un effet vaso-relaxant avec une CE_{50} de 443±0,012 µg/ml (Concentration efficace donnant 50% d'effet maximal). Cet extrait actif a ensuite été fractionné. Par ce même test et dans les mêmes conditions, la fraction la plus active donne une CE_{50} = 35 µg/ml.
Au niveau gastro-intestinal, l'extrait chlorométhylénique de *Mascarenhasia arborescens* a montré une activité antispasmodique. A la concentration de 0,5mg/ml, cet extrait a montré un pourcentage d'inhibition de 100% vis-à-vis de l'activité contractile de l'acétylcholine à 10^{-6} M sur le duodénum isolé d'un rat.

Les travaux phytochimiques sur l'extrait chlorométhylénique de *Mascarenhasia arborescens* se sont poursuivis. Ce dernier montre par chromatographie sur couche mince (CCM) la présence de plusieurs composés. Deux de ces composés qui ne réagissent pas au réactif de Dragendorff se montrent majoritaires. Un de ces deux produits a été isolé et déterminé comme étant la davidigénine, une dihydrochalcone. Les procédés utilisés sont la chromatographie sur couches épaisses (CCE) et la chromatographie sur colonnes de gel de silice. La structure de la molécule a été déterminée par RMN (RMN ^{1}H, ^{13}C, HMBC, HMQC) et par LC-MS (CLHP couplée à un spectromètre de masse). Les autres composés sont en cours d'identification.

Traditional Diet During Lactation – An Underestimated Aspect in Health Care Systems for Mother and Child. An Ethnobotanical Evaluation.

Barbara Frei Haller (Ch-Neuchâtel) & Liselotte Kuntner (Ch-Küttigen)

In the 1960s the food industry aggressively advertised new artificial baby food. Not only in the industrialised countries but also in the less developed world substantial monetary gains were expected. Additionally, solutions for numerous reproductive health problems were targeted, including reduction of malnutrition, infant mortality and maternal death. However, the consequences were fatal! In many developing countries, lack of adequate quality of drinking water for the preparation of such food had an adverse effect. Nowadays the western health care specialists have returned to the basics and encourage women to primarily breastfeed as long as possible.

In contrast, in the less developed countries the various professionals undervalue the traditional knowledge, especially in relation to traditional diet during lactation. In addition, worldwide changes in nutrition habits (e.g. due to migration) are endangering the traditional expertise in this field.

In this study traditional diets during lactation, known as galactagogues, from five different cultural areas were investigated ethnobotanically. Tamil, Turkish, Mexican and European recipes as well as galactagogues from northern Cameroon show interesting comparisons. Over centuries through empiricism, taboos as well as safety methods of the respective cultures, well balances recipes crystallised. This investigation reveals that valuable input for the improvement of the well being of mothers and children may be obtained by following simple rules for the administration of traditional diet during lactation. Institutions with development projects in the field of reproductive health should take these findings into consideration in their programs.

Traditionelle Stillmittel – unterschätzte Gesundheitsversorgung von Mutter und Kind – eine ethnobotanische Analyse

Barbara Frei Haller (CH-Neuchâtel) & Liselotte Kuntner (CH-Küttigen)

In den 1960iger Jahren pries die Nahrungsmittelindustrie mittels aggressiver Werbung künstliche Babynahrung an. Nicht nur in den Industrienationen, sondern auch in den Entwicklungsländern versprach man sich damit satte Gewinne und die Lösung vieler Probleme, wie zum Beispiel die Bekämpfung von Unterernährung oder die Kinder- und Müttersterblichkeit. Die Folgen waren verheerend. Die mangelnde Qualität des Trinkwassers zur Aufbereitung dieser Art von Nahrung führte in vielen Ländern zu einem gegenteiligen Effekt. Heute vermitteln in der industrialisierten Welt Anlaufstellen des Gesundheitswesens wieder ein ganz natürliches Bild des Stillens.

In Entwicklungsländern hingegen wertschätzen die entsprechenden Institutionen das traditionelle Wissen rund um das Stillen, im Speziellen die Ernährung der Stillenden, viel zu wenig. Zusätzlich droht durch die weltweiten Änderungen in den Ernährungsgewohnheiten (z.B. bedingt durch Migration) ein weiterer Verlust von traditionellem Wissen in diesem Bereich.

Im Rahmen dieser Forschung wurden traditionelle Stillmittel, so genannte *Galaktagoga*, in fünf verschiedenen Kulturkreisen einer ethnobotanischen Analyse unterzogen. Tamilische, türkische, mexikanische und europäische Rezepte sowie Galaktagoga aus Nord-Kamerun lassen interessante Vergleiche zu. Durch Empirie und mittels Tabus und Schutzsystemen der jeweiligen Kultur kristallisierten sich im Laufe der Jahrhunderte ernährungstechnisch ausgewogene Rezepturen heraus. Diese Arbeit zeigt, dass einfache traditionelle Stillmittel einen wichtigen Beitrag zur Verbesserung der Gesundheitsversorgung von Müttern und Kindern leisten können. Institutionen, die Projekte in diesen Bereichen in armen Ländern betreuen, sollten diese einfache Botschaft in Ihren Programmen berücksichtigen.

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Veterinary based on experience and belief in Gyimes and Úz Valley of Csángó's (Transylvania, Rumania)

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Úz Valley and the *Valley of Gyimes*'s are lying in Rumania, in the eastern part of the Carpathian Mountains, eastern border of Transylvania. Both regions have Hungarian-speaking ethnical groups of Csángó. Most of our data originates from the villages of *Csinód* and *Egerszék*, *Úz Valley*. The two villages have about 300 habitats. Being isolated, they maintain an archaic knowledge, which is already driven back even in Transylvania. We started our research in 2004. Our primary aim was to describe wild and domesticated plants and poisonous plants which are used in human medicine and veterinary practice.

The method of our research was ethnographical interview completed with audio, photo and herbarium documentation. In our present study, we list the ethnic and vernacular names and ethnobotanical data of the herbs in charts. Animal, human and chemical substances used in veterinary are indicated according to specific illnesses. These substances are used as prevention or healing. E.g. the brew of the following species are given to the sick animals: Gentiana cruciata, G. pneumananthe; Myricaria germanica; Arctium tomentosum. The root of Helleborus sp. is driven to the ear of the pig in order to attract the sickness there. In order to prevent and cure hydrophobia, the bark of Sorbus aucuparia and dried powder of Lytta vesicatoria are cooked in water and given to the animal.

In the prevention and cure of some type of mastitis in the case of cows, before St. George's Day (24th April) a garlic, flour and salt is bewitched with the help of a long, epic incantations, and these are given to the domestic animals. Various bewitched things are very important in the process of veterinary (water, special texts, catkin, ring).

In some cases of mastitis, it is a general belief that the cow was attacked by a snake or a weasel, so the sickness is cured by the skin of a snake or a weasel, and in the same time. If the sickness contains the name of the one what caused it, it is cured by that one. (Wolf-abscess is cured with smoked wolfmeat, diphteria (its Hungarian name is „throat-lizard") is cured with the egg of lizards, etc).

Summarising, it can be stated that not just empirical but also belief-based types of cures have significant role in the veterinary of the villages under research. The methods is based on belief and on the experience of use of herbs, human and animal substances. In many cases not the curing substance is what counts, but the curing act which is based on the pronciple of analogy.

Our few examples show that this region is very rich in ethnomedicinal knowledge, so our aim is to continue this study.

'Medicinal Flora and Associated Indigenous Knowledge: A Method for Sustainable. Development in the Garhwal Himalaya, Uttarakhand, India.'

Pavlos Georgiadis

India is one of the leading countries in the world in terms of the wealth of traditional knowledge systems related to the use of plants. The country possesses a huge indigenous knowledge on harvesting, storage and usage of medicinal and aromatic plants, which has been gathered over centuries. Because they are both a local health commodity and also expected to meet the growing world demand, medicinal plant species experience high pressures due to over-collection from the wild. At the same time, traditional knowledge on the uses of wild plants is declining rapidly due to lack of awareness and spread of allopathic medicine.

The majority of Indian medicinal plants recorded come from Uttarakhand, a state located in the central Himalaya. The region shows a high diversity of landscapes and microclimates, which counts for its rich biodiversity. Its largely rural population shows a wide cultural diversity, with communities of high ethnological interest. As a result, local authorities have appreciated the importance of developing a dynamic market of medicinal and aromatic plants. In the last five years, ambitious initiatives are in place aiming to support the sector by means of inventories, conservation, capacity building, training of small-scale farmers and certification.

The project uses a variety of qualitative research tools and herbarium collections in order to inventorize the wild plant resources used in traditional medicine and food in the district of Garhwal, Uttarakhand. Investigations take place on the role, value, diversity and potential of wild plant resources. Based on direct observations and interviews, the project aims to assess challenges and market opportunities for the utilization of indigenous knowledge and local biodiversity as a way of improving the livelihoods of underprivileged communities in the hilly regions of the state. The results will be a contribution towards the completion of the full inventory of medicinal plants of the state and will be an input for the promotion of the wild plant sector by governmental and non-governmental agencies working directly with farmers in the region.

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Inventaire et valorisation de la biodiversité médicinale de la flore du sud – ouest du Kef (Tunisie)

Ghrabi Gammar, Zeineb & Ben Haj Jilani, Imtinène

La végétation du sud-ouest du Kef (nord-ouest tunisien) présente un paysage très diversifié (forêts, maquis, broussailles, pelouses, etc.) et riche en espèces spontanées. Les vertus de ces plantes dont la majorité est menacée par une surexploitation, sont reconnues par la population locale. En effet, une enquête ethnobotanique menée auprès de cette dernière a permis de dresser un inventaire de la flore médicinale de la région et de sélectionner, en se basant sur des indices de spécificité, de fréquence et de fiabilité, dix espèces (*Capparis spinosa*, *Coridothymus capitatus*, *Globularia*

alypum, *Marrubium vulgare*, *Ormenis africana*, *Pistacia lentiscus*, *Rhamnus alaternus*, *Rosmarinus officinalis*, *Ruta chalepensis*, *Teucrium polium*) potentiellement promotrices en raison de leur polymorphisme et des indications thérapeutiques qui leur ont été reconnues.

La valorisation de ces plantes médicinales peut être réalisée à l'échelle nationale et internationale dans différents secteurs à savoir aromatique, mellifère, cosmétique, pharmaceutique, industriel, phytosanitaire, etc., permettant le développement de certaines opportunités économiques pour les populations rurales de la région.
Cette valorisation peut se faire à travers la domestication de ces plantes médicinales, donc l'introduction d'un nouveau paquet technologique pour la création, l'installation et le développement de nombreux projets de développement épaulés par la recherche et procurant d'autres sources de revenus notamment en faveur des femmes rurales qui jouent un rôle important dans les soins médicaux en utilisant ces plantes qu'elles récoltent par cueillette. Ces projets visent alors la mise au point d'une unité fonctionnelle de culture, récolte, distillation et de conditionnement des plantes médicinales et aromatiques sélectionnées à partir de la flore médicinale du sud-ouest du Kef. L'unité doit être simple, peu coûteuse, rentable et maîtrisable par les femmes rurales futures bénéficiaires.

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XKI-YOMA' and *XKI-TIENDA*: Herbal Medicine and Shop's Medicine among Mazatecs

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In many parts of the world people rely simultaneously on available chemically defined medicine (CDM) and local herbal medicines as a basis for their daily health care needs. Here our aim is to look at the use and knowledge of medicinal plants *and* CDMs among Mazatecs as a case study to understand how and to what extent *traditional* and *modern* medicine integrated each other and whether the separation between traditional and modern medicine offers a meaningful dichotomy especially from an emic viewpoint. Fieldwork was conducted in an isolated community of about 400 inhabitants within the "Sierra Mazateca region" in Southern Mexico.

Methods used include participant observation, open and structured interviews, the collection of voucher specimens for the botanical identification of medicinal plants.
We found that self-treatment is the most common first therapeutical choice in the field site. It is based on a pharmacopeia of medicinal plants and CDMs that seems to be adapted to local epidemiology and explanatory models of diseases. Many of the plants used by the Mazatecs have recognized therapeutical properties. Likewise, people commonly use CDM that are effective in the treatment of the most commons health conditions they face. Within the pharmacopoeia we also found plant species that are notorious for having long-term toxic effects and CDMs that are held to be unsafe in developed countries, or that are used iatrogenically.

While symbolic healing and shamanism are still important part of current Mazatec therapeutical options, there is evidence suggesting that the empirical aspects of Mazatec medicine are nowadays as important. Respondents' use of medicinal plants and pharmaceuticals seems not to be directed by the distinction between traditional and modern, or ancestral knowledge and recently acquired knowledge. Rather, contrasting attributes underlie the dichotomic categorization of medicines as xki-yoma' (medicine of ourselves) or xki-tienda (medicine from the shop): The contrast between inside and outside, the cost and access of the medicines, and a specific "strength peculiar to each medicine. Two empirical dimensions seem to underlie the four attributes just discussed: the source of the medicines and the perceived efficacy by means of empirical observation.

Chenopodium bonus henricus L.(*Chenopodiaceae*) a traditional plant used in Romania

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Chenopodium bonus henricus L.*(Chenopodiaceae),* named in Romania the shepherd's spinach or God's herb, Allgood, King Henri (English), Bon Henri, Epinard Sauvage (French), Guter Heinrich (German) is a spontaneous, nitrofil plant, used for long time by the Romanian people. The plant is used due by its cicatrisating, anti-artritis and anti-cough properties. The nutritional value is due by the high content of proteins and iron. We performed the scientifically base of the use of this plant by phytochemical and pharmacological research.
The qualitative and quantitative chemical research was performed for polyphenols, triterpenic saponins, polysaccharides, lipids, minerals, ecdysteroids and carotenoids by chromatographic (TLC, HPLC and GC) respectively spectral (UV, IR, AAS and MS) methods. The pharmacological studies shown that the extracts and the saponins obtained from this plant are not toxic. The saponins are efficient in high blood-lipid content. Chenopodium bonus henricus L has antimicrobial, antifungical, anti-inflammatory, diuretic and immuno-modulating effect.

Medicinally reputed plants from Loyalty Islands (N.-Caledonia)

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Introduction Lifou, Mare, Tiga and Ouvea compose the Loyalty Islands, an archipelago which belongs more to the indopacific realm than to the gondwanian region, considering its coral origin and its biogeography. Thus the composition of the traditional pharmacopoeia shows some differences with mainland's one, forming a particular series in New-Caledonia.
Objectives To learn the utilization of Loyalty plants, especially medicinal species, through a large ethnobotanical survey. Local cultural subdivisions are defined by the languages : *drehu* in Lifou and Tiga, *nengone* in Mare and Tiga, *fagauvea* in the north and in the south of Ouvea, *iaai* in the middle of this island. A 5th language, *miny*, is spoken only by the chiefs of Lifou island, during the ceremonies.

- To transcribe and make restitution of the information on traditional knowledge about nature, which represents a cultural and technical heritage.
- To screen the species traditionally considered as useful, especially plants containing bioactive substances, in an ethnopharmacological perspective.

Methodology The taxonomical basis is composed of two recent publications, a first about native species (of which local endemics), a second on introduced species, the series "Flore de Nouvelle-Calédonie" (revision of the botanical families ~70%) and former works in botany (synonymies).

Our analysis is classically based on available data (through field works, vernacular language dictionaries and former scientific works), concerning the plant biodiversity in the Loyalty Islands. We collect names, especially vernacular names of plants, local uses, quantity of utilizations, in the four main domains (medicine, food, handicraft, immaterial culture).

First results Majority of available data have been computerized (100% of IRD or UNC enquiries, ~ 95% of written information, i.e. the main publications of Father Dubois concerning the *Nengone* region). The relationship between useful plants and the total of species in the Loyalty Islands depends on the next publication of present botanical inventories and studies. In the flora of Loyalty Islands are represented 30% of native genera in the whole neo-caledonian region, which at a specific level totalizes about 3300 native species, plus ~1500 introduced taxons. The present number and status of plants in the Loyalty Islands is evaluated as follows (*comm. pers., J. Munzinger, oct. 2007*), according to old collections :

Status	**Lifou**	**Mare**	**Ouvea**
A (native species)	87	70	51
E (endemic species)	47	29	22
EE (species from endemic genera)	2	1	
I (introduced species)	34	17	16
I-A? (introduced or native species ?	10	5	2
Total : 393 species	**180**	**122**	**91**

An anterior counting of species used in traditional medicine lead to a first result (*Cabalion & Hnawia 2007*):

- **215 dicotyledons, 20 monocotyledons & 15 pteridophytes**, i.e. **250 medicinal plants** in the whole **Loyalty Islands traditional pharmacopoeia**.
- The recent integration of data from two publications not yet added (*Father Dubois 1980, 1984*) brings this total to 257 medicinal spp., or ~3% more. We consider that further studies should not largely modify the precedent figure.

References : Cabalion P. & Hnawia E. 2007. *Médecine et pharmacopée traditionnelle en Océanie, notamment en Nouvelle-Calédonie*, Conf., 9e Symp. Aromathérapie & Plantes Médicinales, Grasse, 16-18 mars 2007. Actes du Symposium, CD Rom, Grasse. // Dubois M.J. (Father-) 1980. *Dictionnaire Maré – Français*, 1056 p. (en 3 T). Manuscrit, Paris 21 juin 1969, repris, corrigé et augmenté, achevé le 21 juillet 1980. // Dubois M.J. (Père-). 1984. *Gens de Maré. Ethnologie de l'Ile de Maré, Iles Loyauté, Nouvelle-Calédonie.* 376 p., Editions Anthropos, Paris.

Plantes réputées médicinales des Iles Loyauté (N.-Calédonie)

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Introduction Lifou, Maré, Tiga et Ouvéa constituent l'archipel des Iles Loyauté, qui par son origine corallienne et par sa biogéographie appartient davantage à la zone indo-pacifique qu'à la région gondwanienne. La pharmacopée traditionnelle de ces îles se distingue de celle de la Grande-Terre et forme un ensemble particulier en Nouvelle-Calédonie.

Objectifs
- Connaître les usages, notamment médicinaux, des plantes des Iles Loyauté par une large étude ethnobotanique. Les régions culturelles de cet archipel sont définies par leurs langues : *drehu* à Lifou et Tiga, *nengone* à Maré et Tiga, *fagauvea* au nord et au sud d'Ouvéa, *iaai* au Centre de cette île. Une 5^{e} langue, le *miny*, est réservée aux chefs de Lifou, pour usage cérémoniel.
- Transcrire et restituer le patrimoine oral en matière de savoirs naturalistes.
- Cibler les espèces utilisées traditionnellement, en particulier les plantes présumées riches en substances naturelles d'intérêt biologique, dans une perspective ethnopharmacologique.

Méthodologie La base taxonomique est composée de deux ouvrages récents sur les plantes autochtones, dont les endémiques, et sur les plantes introduites, de la Flore de Nouvelle-Calédonie (~70% des familles révisées) et de travaux antérieurs de botanique (état des synonymies). L'analyse se fait classiquement sur les données accessibles (par enquêtes, dictionnaires et travaux antérieurs), concernant la biodiversité végétale des Iles Loyauté. Sont notés notamment les noms vernaculaires de plantes, les usages, leur nombre, dans les quatre grands domaines d'application (médecine, alimentation, artisanat, culture immatérielle).

Résultats préliminaires L'informatisation des données disponibles est presque achevée (100% des enquêtes IRD ou UNC, ~ 95% des informations écrites, notamment les principaux articles du Père Dubois sur la région *Nengone*). Le rapport plantes utiles / plantes présentes aux Iles Loyauté sera établi à la publication des inventaires de botanique, actuellement en cours. Pour mémoire, l'archipel compte ~30% des genres natifs présents dans l'ensemble néo-calédonien, ce dernier comptant ~3300 espèces autochtones, plus ~1500 introduites. Le nombre et le statut des plantes des Iles Loyauté sont évalués comme suit (*comm. pers., J. Munzinger, oct. 2007*), estimation selon collectes anciennes :

Statut	**Lifou**	**Maré**	**Ouvéa**
A (espèces autochtones)	87	70	51
E (espèces endémiques)	47	29	22
EE (espèces de genres endémiques)	2	1	
I (espèces introduites)	34	17	16
I-A? (espèces introduites ou autochtones ?)	10	5	2
Total : 393 espèces	**180**	**122**	**91**

Un comptage antérieur des espèces réputées médicinales avait abouti à un premier résultat (Cabalion & Hnawia *2007*) :

- **215 espèces dicotylédones, 20 monocotylédones & 15 ptéridophytes**, soit **250 plantes** dans la **pharmacopée traditionnelle des Iles Loyauté**.
- L'intégration récente de données issues de deux publications non encore utilisées (*Père Dubois 1980, 1984*) porte le total à 257 spp. médicinales, soit ~3% en plus. Les apports ultérieurs devraient donc de moins en moins modifier les chiffres présentés ci-dessus.

References : Cabalion P. & Hnawia E. 2007. *Médecine et pharmacopée traditionnelle en Océanie, notamment en Nouvelle-Calédonie*, Conf., 9e Symp. Aromathérapie & Plantes Médicinales, Grasse, 16-18 mars 2007. Actes du Symposium, CD Rom, Grasse. // Dubois M.J. (Father-) 1980. *Dictionnaire Maré – Français*, 1056 p. (en 3 T). Manuscrit, Paris 21 juin 1969, repris, corrigé et augmenté, achevé le 21 juillet 1980. // Dubois M.J. (Père-). 1984. *Gens de Maré. Ethnologie de l'Ile de Maré, Iles Loyauté, Nouvelle-Calédonie.* 376 p., Editions Anthropos, Paris.

An application of the regression analysis on the plants of the *Iatrosophikon*, a monastic medicinal scripture from Cyprus

Andreas Lardos & Michael Heinrich

A previous work analysed the plants in the *Iatrosophikon*, a monastic medicinal collection of prescriptions from Cyprus compiled in 1849. The present study uses the method of Moerman (1991) based on a regression analysis to investigate the importance of a botanical family for the plants selected in the *Iatrosophikon* in relation to the number of taxa listed in the Flora of Cyprus (Meikle 1977/1985). We found that the Lamiaceae, the Papaveraceae and the Rosaceae are most strongly overrepresented whereas the Caryophyllaceae, the Poaceae and the Orchidaceae are most strongly underrepresented.

The results were compared with Kashmir, Korea and North America, three regions belonging to the holarctic plant kingdom, as well as with the four southern regions Chiapas (Mexico), Veracruz (Mexico), Toledo (Belize) and Ecuador. The highest correlation between the Cyprus flora an the seven regions investigated, was found for the holarctic floras of Kashmir and North America as well as for Chiapas, harbouring holarctic but also neotropical plants, whereas the correlation with neotropical Ecuador was lowest. An analysis of the correlation between the pharmacopoeia of the monastic scripture and those of the different regions showed a generally minor conformity with a similarly high relatedness with Korea, North America, Chiapas and Veracruz, a lower one with Kashmir and Toledo and the lowest again with Ecuador. In particular the low values for Ecuador and Toledo in relation to the correlation observed for their respective flora correspond to analogous findings of Leonti et al. (2003) and Treyvaud-Amiguet et al. (2006) demonstrating that the selection of certain plants and the neglect of others in traditional medicine cannot be explained by the biological relatedness of an area alone, but also depend on culture-bound factors.

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Eine Anwendung der Regressionsanalyse auf die Pflanzen im *Iatrosophikon*, einer klostermedizinischen Schrift aus Zypern

Eine vorangegangene Arbeit analysierte die Pflanzen im *Iatrosophikon*, eine 1849 zusammengestellte, klostermedizinische Rezeptursammlung aus Zypern. Die aktuelle Studie untersucht mit Hilfe der auf einer Regressionsanalyse beruhenden Methode von D. Moerman

(1991) die Bedeutung einer botanischen Familie für die im *Iatrosophikon* selektierten Pflanzen, verglichen mit der Anzahl der in der Flora of Cyprus (Meikle 1977/1985) aufgeführten Taxa. Es zeigte sich, dass die Lamiaceae, die Papaveraceae und die Rosaceae am stärksten übervertreten, sowie die Caryophyllaceae, die Poaceae und die Orchidaceae am stärksten untervertreten sind. Diese Resultate wurden mit Kaschmir, Korea und Nordamerika, drei holarktischen Regionen, als auch mit den vier südlichen Regionen Chiapas (Mexiko), Veracruz (Mexiko), Toledo (Belize) und Ecuador verglichen. Die höchste Korrelation zwischen der Flora Zyperns und den sieben untersuchten Regionen zeigte sich für die holarktischen Floren von Kaschmir und Nordamerika sowie für Chiapas, welches sowohl holarktische als auch neotropische Pflanzen beheimatet, während die Korrelation mit dem neotropischen Ecuador am geringsten war. Eine Analyse der Korrelation zwischen der Pharmakopöe der Klosterschrift und jener der verschiedenen Regionen lieferte eine in jedem Fall kleinere Übereinstimmung, wobei die Verwandtschaft mit Korea, Nordamerika, Chiapas und Veracruz ähnlich hoch, mit Kaschmir und Toledo geringer und mit Ecuador wiederum am geringsten war. Insbesondere die tiefen Werte von Ecuador und Toledo im Vergleich zu der bei der jeweiligen Flora beobachtete Korrelation entsprechen analogen Ergebnissen von Leonti et al. (2003) sowie Treyvaud-Amiguet et al. (2006) und verdeutlichen, dass die Selektion gewisser Pflanzen und die Vernachlässigung anderer in einem traditionellen Medizinsystem nicht allein mit der biologischen Verwandtschaft einer Region erklärt werden kann, sondern ebenso auf kulturgebundenen Faktoren beruht.

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Prévention et purification du corps par les plantes et par le cobaye commun, *cavia porcellus*. Les shamanes équatoriens à l'œuvre. A propos d'une expérience de « limpia con plantas » et de « limpia con cuy »

Guy Lesoeurs

Résumé Les shamanes d'Equateur pratiquent la prévention et la purification du corps (limpia) en crachant sur votre anatomie un liquide, produit d'une macération de plantes dans l'alcool, puis en soufflant de la fumée de tabac sur les points douloureux, le tout en prononçant des incantations. Pour quelques dollars de plus, le shamane pratique la « limpia con cuy » en se servant d'un cochon d'Inde vivant (cobaye commun, *cavia porcellus)* auquel il a fait ingurgiter la même macération de plantes. Le shamane roule sur le corps du patient le cobaye, comme un rouleau à pâtisserie, transférant à l'animal le mal dont le patient est porteur. A la fin de l'exercice, le shamane demande s'il doit sacrifier l'animal pour lire ses entrailles et prédire l'avenir. Cela se passe en plein Quito dans un « congrès de shamanes » venus des quatre horizons d'Equateur que ce soit d'Otavalo ou de l'Oriente. L'auteur expliquera le processus et montrera une courte vidéo sur place.

Prevention and body purification by plants and cobaye, *cavia porcellus*. Equatorian shamans in action. Experiencing "limpia con plantas" and "limpia con cuy" in Ecuador

Abstract Equatorian shamans prevent and purify the body of their patients by spitting on them a maceration of plants then by blowing tobacco smoke on painsensitive points while they pronounce incantations. For a few dollars more, the shaman rolls on the body a cobaye, *cavia porcellus*, in order to transfer in it the potential disease. Eventually, the shamane ask if he should sacrify the animal to see the future. The author of the poster will explain the processus and will show a short video.

Tradition et fonction de l'attrape-rêve chez les Amérindiens du Nord // Tradition and function of dreamcatchers in North American Indians

***Guy L*esoeurs**

Résumé Les Amérindiens du Nord (Objiwas et Chippewas de culture Algonquine et les Sioux-lakotas) utilisent encore un petit filet tendu sur un cadre de bois à la manière d'un petite raquette pour filtrer les rêves des bébés devant leur berceau et chasser les mauvais esprits : l'attrape-rêves. L'attrape-rêves est constitué d'une branche fine d'osier, saule des vanniers , *Salix viminalis,* écorcée et séchée sur un rondin de bois afin de lui donner une forme arrondie. L'attrape-rêves est orné de plumes pour permettre aux bons rêves de pénétrer dans la tête de l'enfant. Les cordes du filet sont constituées de tendons d'animaux de la prairie (bisons et cervidés) et leur treil.

Abstract Americans (mostly Ojibways/Chippeways from Algonquin culture and Sioux-Lakotas) are still shielding babies in cradleboards from nightmare and bad spirits with a hoped-web talisman with feathers : the dream catcher. This device played also a great role in the vision quest of adults. Dream catcher is made from a bended branch of willow, salix viminalis and the net from sinews (bulls or deers).

L'hommage à Diana au Pont de l'Alma. Les fleurs déposées par les pélerins et leurs symboles. Essai d'ethnobotanique commémorative" / Tributes to Lady Diana. Pilgrims' flowers and their symbolism at Pont de l'Alma, Paris. About "commemorative" ethnobotany, a tentative.

***Guy L*esoeurs**

Résumé Des milliers de pélerins venus du monde entier rendent hommage depuis 10 ans à la Princesse Diana disparue au Pont de l'Alma, à Paris. Des fleurs et des plantes sont déposées là tous les jours, fleurs uniques, en bouquet, en gerbes ou en graffitti. A la faveur de son étude ethnographique du comportement des visiteurs de la Flamme de l'Alma, du bleuet au glaïeul en passant par la marguerite et l'armoise, l'auteur s'est intéressé aux types de fleurs et à leur symbolique en rapport avec Lady Diana, *la Rose d'Angleterre***.**

Abstract Every day, thousands of pilgrims, from the entire world, pay a tribute by offering flowers and plants at Alma'Flame, from the date of the accident at Pont de l'Alma. Besides his ethnographic study of this pilgrimage phenomenon, the author has gathered observations about the types of flowers and plants elected by the people and has drawn some conclusions on their symbolism with regard to the myth of Lady Diana, *the Rose of England*.

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The Romanian sea-buckthorns from traditional practicesto contemporary science

Manea Şt., Tamaş V., Raiciu D., Mărculescu A.*, Ionescu D.

Sea-buckthorn – *Hippophae rhamnoides* in the Eleagnaceae family – was used by our ancestors the Dacians for external use in wounds' and burns' healing, and for internal use especially in stomach aches. Modern research established the complexity of the chemical composition of the sea-buckthorn's fruit, leaves and fruit's covering wax.

Due to the optimal conditions of climate and soil, the chemical structures' content and variety of the Romanian sea-buckthorn is superior, compared to other geographical regions. The total carotene's content, expressed in β-carotene, is up to 0.35 g% compared to around 0.15 g% frequently quoted in the literature on the subject, and the C vitamin's content goes up to 0.4 g %. The sea-buckthorn fruit processing is done with the three proceedings also used in other countries: extraction with solvents, cold-pressed, and extraction with supercritical fluids. A vast range of products have been achieved on the basis of the lipo- or water-soluble extracts, with the entire or partially modified vegetal material. Among those, one can mention:
Nutrition Supplements (energizante, adaptogenes, hepatitis protectors): CoQ_{10} in sea-buckthorn's oil – cardio protector product // „Cătinofort" (Sea-buckthorn Strong) with full powder of the fruit // Sea-buckthorn Jus + Spirulin // „Hepastim", with fat removed powder of the fruit // Other products that use sea-buckthorn jus in association with extracts from other plants with complementary effect: Complet Antioxidant, Flavovit C, Reglacid.
Cosmetics The range Hofviodana with sea-buckthorn oil and CoQ_{10} // anti-wrinkle cream, cream for neck care // eye-outline gel, cleansing milk, body milk, beach gel // shampoo 5R and hair conditioner
Hygiene products // toilet soap with sea-buckthorn oil // Acneogel, Bucoprotect, Orisan, Pedisan, etc. (for the protection and the hygiene of the mouth, the feet, the ears and the nose.
All above-mentioned products are patented, a majority of which having been awarded at the Invention Fairs in Romania or abroad, being currently under production at SC HOFIGAL SA and having a good market estimation. >Contact : marculescu_angela@yahoo.com

Les jardins des plantes médicinales et aromatiques - de la tradition à l'agrotourisme modern

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En conformité avec les traditions, autours des maisons, les paysans avaient des jardins des légumes et des fleures où les plantes médicinales et aromatiques étais présentes. Cette habitude a été partiellement abandonnée à la suite des tous les changements de l'époque moderne. Dans ce moment de grand développement de l'agrotourisme thématique, l'ethno-pharmacologie et l'ethnobotanique, par leurs objectifs, ont la possibilité d'intégrer une nouvelle forme de valorisation et de conservation des espèces médicinales et aromatiques en organisant les jardins traditionnels d'antan dans les pensions agro-touristiques de la zone rurale. L'ethnopharmacologie, par ses spécialistes, peut réaliser des enquêtes de terrains sur les plantes médicinales de la flore spontanée dans les régions touristiques de la Roumanie et aussi peut établir les conditions d'introductions dans la culture (dans les jardins des pensions) les espèces les plus importants de point de vue aromatique, ornemental, condimentaire, ou phytopharmaceutique. Par ces jardins on arrive à la conservation et à la valorisation des ressources naturelles liées aux coutumes spécifiques locaux en concordance à l'architecture du paysage. Cet ouvrage présent une telle expérience à Sirnea - village touristique de la région des montagnes, qui dispose d'une flore spontanée très riche.

Les espèces médicinales les plus connues et les plus appréciées dans la médicine tradition-nelle de la région - mais utilisées d'une maniere empirique - sont :

Gentiana asclepiadea, Symphytum officinalis, Hypericum perforatum, Alchemila vulgaris, Gentiana lutea, Centaurium umbelatum, Achilea millefolium, Arnica montana, Plantago lanceolata, Origanum vulgare, Thymus serpyllum, Rumex acetosa. Parmi les espèces cultivées dans les vieux jardins paysans de Sirnea, comme plantes ornementales, aromatiques ou thérapeutiques on peut citer les suivants: *Ocimum basilicum, Artemisia abrotanum, Mentha piperita, Thymus serpyllum, Chrysanthemum balsamita, Geranium machrorrizum, Calendula officinalis*. Par ce projet, nous désirons offrir un plaisir supplémentaire à ceux qui cherchent le paysage reposant et une alimentation écologique, ayant aussi la possibilité de connaître les espèces médicinales et aromatiques dans leur milieu naturel.

Etude ethnobotanique multisite et pluridisciplinaire de deux nouvelle « panacées himalayennes : *Rhodiola crenulata* (J. D. Hooker & Thomson) *H. Ohba,* et *Cordyceps sinensis* (Berk.) Sacc.

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La réalisation d'une enquête ethnobotanique dans la région du Kham (est du Tibet) a révélé l'émergence de deux nouvelles vedettes himalayennes d'une phytothérapie mondialisée. Présentées comme de modernes panacées, *Rhodiola crenulata* et *Cordyceps sinensis* traversent les sociétés et les cultures. Pour étudier ce phénomène complexe il a été choisi de recourir à une anthropologie multisite et à une approche transdisciplinaire prenant en compte le biologique, le social, le symbolique, l'économique et le politique. - *L'analyse* de la place de la rhodiole tibétaine et du cordyceps dans la taxonomie tibétaine ainsi que de l'évolution de leurs usages, révèle le mouvement de standardisation, de biomédicalisation et de globalisation de la médecine tibétaine. L'objectivation des circuits de distribution, avec leurs enjeux économiques, politiques et identitaires montre comment ces nouveaux marchés reconfigurent la société pastorale nomade. Ils expliquent aussi des enjeux géostratégiques liés à la ressource, quand la guérilla maoïste népalaise prend en priorité le contrôle des zones riches en cordyceps, ou quand le Bhoutan est contraint de revoir sa législation pour ne pas perdre de nécessaires devises. Il permet encore de s'interroger sur les aléas du développement durable.

Les représentations de la maladie et de l'efficacité thérapeutique dans les différentes sociétés traversées, mettent en jeu des processus de légitimation qui nécessitent d'étudier les pratiques de la recherche scientifique. Dans le cas des phytomédicaments on se heurte à des problèmes méthodologiques majeurs et à l'absence d'études cliniques d'efficacité fiables. Cette spécificité conduit à des extrapolations parfois vertigineuses entre données pharmacologiques ou de l'expérimentation animale et clinique humaine. On peut ainsi mettre en évidence les glissements nosologiques d'une médecine à l'autre s'appuyant sur une certaine façon de manipuler les résultats « scientifiques » et validant les indications de la biomédecine au détriment des indications tibétaines le plus souvent. Cela pose une nouvelle fois la question de l'évaluation des médecines traditionnelles. - *La légitimation* se base également largement sur des discours autour de la « tradition » réinterprétés à chaque étape en fonction des attentes de chacune des sociétés traversées. Il est ainsi possible de suivre le trajet tant géographique que symbolique de cette plante et de ce champignon devenant progressivement phytomédicament,

depuis le haut plateau tibétain jusqu'aux supermarchés occidentaux ou asiatiques, en passant par le réseau internet. Ils servent de révélateur aux sociétés qu'ils traversent et illustrent avec acuité les phénomènes de rencontre et d'interprétation du local par le global et du global par le local. C'est en progressant au sein de cette réalité complexe et multisituée que l'on peut comprendre les dynamiques de rencontre des médecines et de leur pharmacopées, les influences sur les pratiques sociales et les conséquences sur le biotope de la globalisation des *materia medica*.

Vegetative propagation of medicinal trees and shrubs in Western Uganda, East Africa. Six easy, efficient and affordable propagation techniques for rural communities.

Quentin Meunier (Ouganda) & Amélie Morin(France)

Medicinal species in Uganda are subject to increasing anthropogenic pressures. Various uses of trees, especially for energy, make essential medicinal species for healers and farmers rare. Developing effective propagation techniques is necessary to meet their local demand, enhance tree diversity and arrest the process of biodiversity decline in inhabited areas as well as in protected forests. As reproduction by seeds is for some species compromised, due to premature tree cutting or to the low rate of natural germination, there was a need to develop vegetative propagation techniques such as layering, cutting and suckering methods. They have been mainly chosen for their low cost and simplicity, which are two strong arguments in rural areas. In south-western Uganda, those techniques were tested since 2005 on priority medicinal species. Results obtained allow us to find out one to several propagation alternatives for each targeted species. Additional experiments are needed to valid this first set and to find out optimum protocols and methods for each endangered and requested species, in order to face medicinal plant decline and progressively produce and use them on a sustainable basis.

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Study of the anticancer potential of Yemeni plants used in folk medicine

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The present work evaluated the anticancer activity of methanol extracts from 24 plants used in Yemeni traditional medicine. To evaluate the *in vitro* cytotoxic potency of the investigated extracts, an established microtiter plate assay based on cellular staining with crystal violet was used with 5 human cancer cell lines: two lung cancer (A-427 and LCLC-103H), two urinary bladder carcinoma (5637 and RT-112) and one breast cancer (MCF-7) line. The methanolic extracts of *Dendrosicyos socotrana*, *Withanina aduensis*, *Withania riebeckii*, *Dracena cinnabari* and *Buxus hildebrandtii* exhibited the highest toxicity on all tumor cell lines with IC_{50} values ranging between 0.29 and 5.54 µg/ml. The extracts of *Jatropha unicostata* and *Punica protopunica* showed a moderate potency on the most tumor cell lines.

Ethnobotanical data of some gardens in Csinód (Transylvania)

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The village Csinód is situated in East-Transylvania (appr. 1000-1200 m. over s.l.) with about 200 inhabitants. Because of their isolation they have a very valuable archaical knowledge of the medicinal plants. In this study we present several ethnobotanical data about the medicinal and ornamental plants from 13 gardens in Csinód, classified into 3 groups according to the age of the owners. The vernacular names, believes, drug parts and medicinal uses of the plants were documented. The generation of owners above 65 years have fenced kitchen garden with several medicinal and condiment plants and some ornamental taxa, e.g. *Cosmos bipinnatus*, *Tropaeolum* sp, *Althaea rosea*, *Anthirrhinum majus*, *Dahlia* sp.,*Tagetes patula* and *Syringa vulgaris*. Among the cultivated and used medicinal plant drugs were found e.g. the grated tuber of *Solanum tuberosum*, leaves of *Coleus* sp. and flowers of *Calendula officinalis* (mixed with pig fat as cream) which are used for wounds. Leaves of *Brassica oleracea* with honey is used as cataplasm against fever.
Gardens of owners between 46-64 years have more ornamental plants (e.g. *Phalaria arundinacea* cv. *Picta*, *Asparagus* sp. and *Pelargonium* sp.) and a kitchen garden with vegetables too. Gardens of the youngest generation (under 45 years) have only a few medicinal plant taxa but much more of ornamental plants, e.g. *Aconitum moldavicum*, *Impatiens balsamita*, *Philadelphus coronarius* and *Lilium bulbiferum*.
Some plants were found in all gardens, e.g. herbs of *Urtica dioica* which is used against snake bit of cows and rheumatism too. Fluited drops of *Sempervivum tectorum* is good for ear diseases. This region is rich in ethnobotanical knowledge, therefore we will continue this study of the medicinal plants. Most of these plant taxa are suitable for further phytochemical investigations because of their uses.

Multicomponent traditional therapeutics versus chemically defined drugs: The case of the Pomak community in Greece

Andriana Patsoura and Michael Heinrich**

In many communities herbal medicines and chemically determined patented drugs (CDPDs) are two distinct health care options. Classical approaches in (medical) ethnobotany and pharmaceutical anthropology, respectively, focus either on herbal or on chemically defined medicines. The Pomak community of Western Thrace in Greece offer a unique opportunity to study the complexity of medicine usage in a rural, poor region in Europe.
Pomaks of Mount Rhodope (Greece) are an ethnic group speaking a Bulgarian dialect and are part of the officially recognised Muslim minority. Since the end of the 2nd World War, they have been restricted for political reasons in this region and have been, until 1995, largely isolated from the rest of the world. Public health-care centres opened in the region only 15-20 years ago. For a variety of reasons, an important part of the population is not satisfied with the current health care – public or private sector – administered and the remnants of their traditional medicine cannot sufficiently cover their health needs. As a result, the most common reaction to illness is a mixture of traditional practices/remedies and biomedical consultation/drugs.

We started data collection with open discussions and later carried out interviews based on a structured questionnaire on health issues, with free-listings incorporated as well. The question/answer sessions were always held orally since an important part of the population is virtually illiterate.

Important differences were observed between villages. The more isolated a village is, the more widespread is the use of traditional medical practices and multicomponent traditional therapeutics (MCTTs) among the population. Differences relative to the age of interviewees were also observed. It appears that older people are more hesitant to visit the biomedical services and to use CDPDs. In addition, when obliged by a serious health problem they consider the CDPDs as a necessary evil. On the other hand, a significant part of the population seems to use CDPDs, especially antibiotics and antidepressants, in an excessive and unregulated way. The overmedication problem cannot solely be blamed on 'medical illiteracy'. Many of the local physicians prescribe more drugs than necessary and even drugs that are inappropriate for the health problem of the patient, sometimes intentionally and for financial reasons. In contrast, MCTMs are considered completely safe from the population and are often used in combination with CDPDs, in most cases without any medical advice.

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L'ethnopharmacologie et l'ethnobotanique : Perspectives à Madagascar

Isabelle Ratsimiala Ramonta

La connaissance de la Biodiversité est fondamentale pour une politique de développement durable dans les pays en voie de développement. En effet, Madagascar possède une richesse exceptionnelle non seulement du point de vue écosystème mais aussi au niveau taxon : plus de 12000 espèces de plantes dont 80% des végétaux supérieurs sont endémiques. Ce patrimoine local qui regorge de ressources naturelles végétales explique son utilisation prépondérante pour les soins de santé primaire, surtout dans les régions reculées de Madagascar où les médicaments modernes sont rares et coûteux. C'est pourquoi des mesures sont prises par le Ministère de la Santé, du Planning familial et de la Protection sociale pour que cette pratique traditionnelle suive des normes respectant le bien-être de l'homme. Aussi, la phytothérapie est institutionnalisée à Madagascar, et les tradipraticiens sont recensés, identifiés et formés. Un décret est sorti permettant à ces derniers de respecter l'éthique et les règles internationales, et de ce fait améliorer leurs remèdes traditionnels et aussi la qualité de leur vie. Ces tradipraticiens sont aussi la source du savoir traditionnel, d'où l'importance des enquêtes ethnobotaniques permettant aux chercheurs d'étudier, de valider scientifiquement et de valoriser leur thérapie au bénéfice de la population. Aussi des organismes comme l'Association Malgache d'Ethnopharmacologie permettent de faire le lien entre les tradipraticiens, la médecine traditionnelle et l'ethnopharmacologie. L'A.M.E. organise tous les ans une formation continue sur l'Ethnopharmacologie appliquée ; de même le Ministère de la Santé, du Planning familial et de la Protection sociale a institué la filière Médecine traditionnelle au sein de l'Institut National de Santé Communautaire et Publique pour les médecins. D'autres institutions publiques (CNARP Centre National Appliqué à la Recherche Pharmaceutique) ou privées (IMRA Institut Malgache de la Recherche Appliquée, Homéopharma) ont mis au point des phytomédicaments efficaces, accessibles à la majorité de la population malgache. Peu à peu, les plantes médicinales sont mises en valeur à travers la Pharmacopée malgache avec les monographies de plantes médicinales les plus utilisées, mais

aussi la mise en place de jardins botaniques thématiques accessibles à tous (au Parc Botanique et Zoologique de Tsimbazaza-Antananarivo), permettant une connaissance de la plante et sa conservation ex situ. En effet, certaines plantes sont menacées, suite à une surexploitation. Pour *Ravensara aromatica*, les arbres sont coupés pour chercher les feuilles se trouvant au sommet afin d'en extraire des huiles essentielles. Il en est de même pour *Prunus africanas* où l'écorce est enlevée presque en totalité et la plante ne survit pas. Toutes ces améliorations participent à une nouvelle perspective pour une garantie de la sécurité et de l'efficacité des remèdes traditionnels améliorés, donc une application avancée de la médecine traditionnelle aux soins de santé primaires surtout pour ceux qui n'ont pas accès à la médecine conventionnelle.

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Compounds isolated from two plants endemic to Madagascar : pharmacological activities and models for design and synthesis of Matrix metalloproteinases inhibitors

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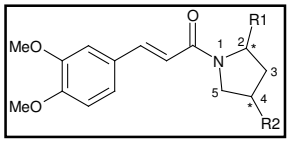
Within the framework of our research, we were interested in the traditional medicine of Northern Madagascar, through ethnobotanical investigations led with groups of women, in association with the University of sciences of Antsiranana and association "Jardins du Monde". From this field research, one endemic *Bignoniaceae* has been selected according to several criteria : *Perichlaena richardii* Baill., locally known as "antsemby". In fact, as an interdisciplinary scientific approach, ethnopharmacology deals with the empirical uses of traditional medicinal remedies by populations. This concept can be a tool devoted to an improvement of sanitary situation in countries where Western medicine is strictly inaccessible, but also to the selection of plants with interesting pharmacological potential.
We investigated the constituents of this plant which seemed to give some positive results in folk medicine. This plant is reportedly used in the treatment of "cancer" by the population. In Madagascar, "cancer" is associated with internal or external wounds which don't cure. Theses symptoms can be due to infectious, ulcerous, inflammatory conditions, but could also actually correspond to cancer. These symptoms have oriented our choice, reinforced by recent studies on perveilleine A, a potential multidrug resistance inhibitor, isolated from a Madagascar plant selected according to ethnobotanical criteria[1]. From the extracts, compounds have been isolated : iridoids glycoside substituted by a caffeic acid (verminoside, 6-trans-caffeoyl-ajugol, 10-trans-caffeoyl-catalpol), caffeic acid, 1-β-O-caffeoyl-D-glucose and a flavonol glycoside by a disaccharide (rutin). The literature underlines the interest of flavonoids and iridoids (such as quercetin and harpagoside respectively) in inflammation inhibition, via various pathways. Thus, we planned to test these compounds for their potential inhibition activities of enzymes involved in inflammation and in carcinogenesis such as COX, LOX. In addition, from an *Apiaceae,* endemic to Madagascar, *Phellolophium madagascariense* Baker, three coumarins were also extracted, one identified as osthol[2]. These various molecules have

been tested for their potential inhibition of cellular proliferation and of activity of other enzymes involved in cancer such as tyrosine-kinase and matrix metalloproteinases (MMP-9), the last ones being more particularly involved in the tumoral progress.



From these natural models, in our search for anti-cancer agents, we then considered the design, synthesis and pharmacological study of pseudopeptidic compounds inspired from caffeoyl prolines showing an inhibiting activity with respect to matrix metalloproteinases. We kept caffeic acid from the verminosid and inserted an isopentenoyl group from the osthol because of its interesting antiproliferative properties. Various structures have been synthetised. The works of Li et al.[3], and our first pharmacological results, made us modify our pharmacomodulation, by different substitutions in position 2 (zinc-binding group) and in position 4 (a chain likely to interact with the S'1 pocket of the enzyme) of the proline (see fig.).

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Selection and in vitro multiplication of Arnica Montana, for cultivation on large areas

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Due to its multiple uses, Arnica may be consider a "Wonder plant", but its savage cropping has endangered the species in Romania. In order to avoid this, and to offer a chance to the farmers in Sibiu County (Transylvania, Romania), wishing to improve their incomes by switching from "classical" cultures with plantlets having maximal amounts of active principles, we have started a selection and in vitro cultivation process.

In this respect we have collected wild Arnica plants from populations growing at different attitudes and have determined the morphological characteristics (especially rhizome dimensions and mass) and the amount of sesquiterpene lactones (SL), as control factors. The results shown that wild plants growing at altitudes between 600 and 800 m have given the best productivity from all points of view (SL: 0.60-0.78% DW).

The RAPD analysis of 11 such families enabled us to find two genotypes with very large degree of variability, to be used for the amelioration program. In vitro multiplication of these two genotypes have proven that the Murashige-Skoog medium, supplemented with NAA (0.1 mg/L) is the most suitable one for obtaining viable and productive Arnica plantlets, the best results being obtained starting from apical meristems (over 90% viability). The obtained plantlets, after growing in greenhouse will be transplanted in the experimental field.

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The tradition of taking plant remedies with secluded and saltless partial fasting in the Chazuta valley (Peruvian Amazon)

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Humankind has practised fasts in different parts of the world for religious purposes, own discipline, political intentions and as a mean of restoring health [1]. Fasting as a medical treatment is claimed to be a valuable therapeutic method for chronic and acute diseases in most ethnomedical systems [2,3]. However, the effects of therapeutic fasting have been studied only for a few indications [4].

Fasting practices have been described in many Amazonian ethnic groups, mainly as shamanic initiations or as part of other rites of passage. In the Chazuta valley, a region where dwells the major concentration (47.4% of its population) of one of the biggest indigenous groups of the Peruvian Amazon (known as San Martin Quechuas or Lamas Quechuas) [5], fasting used to be widely performed during the wet season – on the decrease lately – not only in initiations but mainly as a medicinal practice. These fasts present the following characteristics: a) are carried under social seclusion where sexual abstinence is indispensable, b) specific plant remedies often with marked emetic and/or laxative effects and usually with some sort of psycho activity are taken, c) other than water and herbal preparations, just a very few boiled or roasted green plantains – solid or as a purée – are ingested daily, and d) salt consumption is not permitted.

An overall strength was said to be gained with the performance of these "partial fasts". General effects were described as an increase on work performance, possibility to carry heavier weights, loss of laziness, difficultness to become ill, extinction of rheumatic pains, optimization of sexual function, preparedness for hunting and fishing (since corporal odour is lost with these "partial fasts" hence making human presence unnoticeable for wild animals which then become very easy to hunt or fish), the development of a special talent to attract love from others (usually expressed as a form of womanizing) and the "obtention of protection from spirits", mainly from the spirits considered of the plants that are taken with fasting.

With the aim of recording the custom of fasting and the plants used during these practices in the Chazuta region, an ethnopharmacological field survey was performed in the area from October 2004 to August 2005. Through interviews with 140 adults, 99 plant species mentioned to be used at least once with fasting were collected and identified. Altogether,
122 of these fasts were reported. In the present work, results concerning the plant use within fasting practices and the custom to fast itself are presented.

Mainly, these "partial fasts" were employed to restore human health (64 reports); principally against unspecified rheumatism (38 reports), inguinal hernias (5), broken bones (4) and malaria (3). Also, fasting was used to invigorate health (11 reports). And also dogs were forced to ingest plant remedies with secluded fasts for hunting preparedness (15 reports).

Being longer and with severer seclusions, fasting practices of this type were recorded in two kinds of initiations: in rites of passage to adulthood among young men (21 reports), and in initiations of *vegetalistas* (local type of traditional healers that use shamanic techniques) (2 reports). Moreover, this sort of fasts was also recorded to be performed by *vegetalista* traditional healers to "learn" and gain "special powers" from the spirits of the plants taken (9 reports).

The plants (plant parts) most times reported to be ingested with fasting were: *Tovomita* aff. *stylosa* (bark) (Figure 1), *T. foldatsii* (bark), *Clusia sp.* (bark and stem), *Calliandra angustifolia* (bark), *Maytenus* aff. *macrocarpa* (bark), *Brunfelsia grandiflora* (root bark), *Zygia longifolia* (bark), *Allosanthus trifoliatus* (stem), *Petrea* sp. (stem), *Mansoa alliacea* (root bark), *Tabernaemontana sananho* (root bark), *Dicranopygium* aff. *lugonis* (aerial root), *D. yacu-sisa* (aerial root), *Ficus trigona* (bark), *Rourea puberula* (stem), *Annona ambotay* (stem), *Justicia pectoralis* (whole plant), *Agarista albiflora* (leaves), *Callaeum antifebrile* (stem) and *Tabernaemontana undulata* (root bark).

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Fungi in Use in the Folk Medical Care in Poland in the 19th Century.

Anna Trojanowska

In the latter part of the 19th century in Poland was observed a growth of interest in the folk medical care issue as an element of traditional culture. Then were published numerous works treating of the subject. Among others, one can mention such writings as for example: *Folk Medical Care in South – Ruthenian Territories in Outline* (1893) – [*Zarys lecznictwa ludowego na Rusi południowej*] of Julian Talko – Hryncewicz, and *Exiguous Contribution to Folk Medical Care* (1896) – [*Przyczynek do lecznictwa ludowego*] of F. Wereńko. Other works were published in the columns of ethnographic periodicals – in 'Aggregation of Knowledge of Inland Anthropology' (1877 – 1895) – [„Zbiór Wiadomości do Antropologii Krajowej"], in 'Anthropological, Archaeological and Ethnographical Materials' (1896 – 1919) – [„Materiały Antropologiczno – Archeologiczne i Etnograficzne"], in 'Vistula' (1887 – 1916) – [„Wisła"], and in 'People' (since 1895) – [„Ludzie"]. In general, the works were a kind of scientific description presenting different therapeutic staples. Some of the stocks and the methods of their application still remain inscrutable, and cover the potential that till now has not been developed. Among these staples we can also find the mushrooms.

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Caroline S. Weckerle: Ethnobotany and Ethnomedicine – A new continuing education programme at the University of Zurich

Ethnobotany and ethnomedicine are transdisciplinary fields focusing on the interface of plants, people, and human health. In spring 2008 a continuing education programme in ethnobotany and ethnomedicine will be realized for the first time at the University of Zurich. Lecturers will provide theoretical and applied knowledge of ethnobotany and ethnopharmacology in Switzerland and worldwide, traditional medicinal systems, illness and well-being within its cultural context, ethnobotany and complementary medicine, and food as medicine. The whole programme comprises thirteen days and a final paper by each participant. Successful participants receive a Certificate of Advanced Studies by the Univ. of Zurich. For further informations please check http://www.weiterbildung.uzh.ch/programme/ethnobot.html

Wild plant use in the Hengduan Mountains of Southwest China - Ongoing projects

*Franz K. Huber & Caroline S. Weckerle**

The present two projects aim at conducting ethnobotanical research in the Muli Tibetan Autonomous Region, at the Himalayan foothills of Southwest China. Muli is remarkable for both its cultural richness as well as its biological diversity. While the first project focuses on traditional plant uses, especially the role and meaning of ritual plants, the second aims at investigating the potential of sustainable agroforestry systems in terms of income generation and the conservation of biological diversity. An overview of the two projects and their background is provided.

Les plantes sauvages utilisées dans les montagnes Hengduan, au sud-est de la Chine – Projets en cours

Les deux projets en cours ont pour but de mener une recherche ethnobotanique à Muli, dans la région autonome du Tibet, au pied des montagnes himalayennes du sud-est de la Chine. Muli est connu à la fois pour sa richesse culturelle et sa diversité biologique. Tandis que le premier projet focalise sur l'utilisation traditionnelle des plantes, en particulier le rôle et la signification des plantes rituelles, le second a pour but d'étudier le potentiel des systèmes agroforestiers disponibles en termes de revenus et de conservation de la diversité biologique.

La présente étude propose une vue d'ensemble des deux projets et leurs caractéristiques principales. Dr. Caroline S. Weckerle, Botanik * weckerle@systbot.unizh.ch

Ethnobotanical evaluation of medicinal plants used in the community Porvenir, Santa Cruz Department, Bolivia

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One of the most efficient ways of finding new bioactive compounds is collecting data on the use of medicinal plants in unexploited areas. The Bajo Paraguá Indian Reservation in Bolivian Amazon is highly valuable source of medicinal plants because of the long history of using native plants, but it has not been studied thoroughly. During my ethnobotanical evaluation in the community Porvenir in the reservation I have collected data on the plants utilized by the inhabitants in the traditional medicine and other purposes. Techniques of cultural anthropology (participating observation, semi-structured interviews) were used. A total of 235 plants were listed, among them 135 species were used in the therapy. The plants were collected, botanically identified and deposited in the National Herbarium of the Noel Kempff Mercado Historic Natural Museum. The medicinal plant knowledge of Porvenir were analysed by means of A. H. Gentry's method which give the frequency and variety of the use of the species. Then the data were compared with those of traditional medicine from other regions, and with the results found in the chemical, pharmacological and clinical literature. The traditional use of herbs was evaluated whether it correlate with the relating scientific data. It was concluded that no or only few chemical and pharmacological studies are available for the majority of the plants traditionally used by Porvenir people, therefore these species offer a good subject for further investigations and finding new biologica.