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Medicinal plants and rituals.

Magicotherapeutic and magicoprophylactic plant uses in Pallars (Pyrenees, Catalonia, Iberian Peninsula)

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Introduction

Plants for medicinal and food purposes have been used by human societies since time immemorial. In the last two generations, so-called developed countries have undergone a process of acculturation (Ember and Ember 1997) – parallel to the depopulation of rural areas –, which has led to considerable erosion of traditional knowledge about plant uses. Aware of the precariousness of this knowledge, which is both a part of our cultural heritage and relevant for developing new medicines and other benefits for the population (Croom 1983; Hedberg 1993), several groups have done research into pharmaceutical ethnobotany over the last few years in European countries (see Vallès and Bonet 1996, Raja *et al*. 1997, Vallès 1997, and Bonet *et al*. 1999, for more details and references). With the same idea, and in the frame of the research line into Catalan ethnobotany of the Laboratory of Botany (Faculty of Pharmacy, University of Barcelona), we carried out a study in a Pyrenean region called Pallars (Agelet 1999). Here we present the results concerning the magical uses of medicinal plants, which involve some kind of ritual.

The territory studied (Fig. 1) is constituted by two mountain districts located in the Pyrenees: El *Pallars Jussà* (or el *Baix Pallars*) and *El Pallars Sobirà* (or *L'Alt Pallars*). Both areas together are known as *Pallars* and are defined by the river Noguera Pallaresa, which crosses them from north to south. El *Pallars Sobirà*, a clearly Pyrenean district, with several peaks around 3,000 m, has an area of 1,376 km^2 and a population of 5,050. El Pallars Jussà, basically a sub-Pyrenean district, with some peaks around 2,000 m, has an area of 1,290 km^2 and a population of 13,760. The predominating climate is sub-Mediterranean, but alpine, sub-alpine climates characterise the northern portion of the territory, and the Mediterranean climate is

Figure 1. - Location of the areas studied in Europe and in Catalonia (shaded areas; 1: El Pallars Sobirà; 2: El Pallars Jussà).

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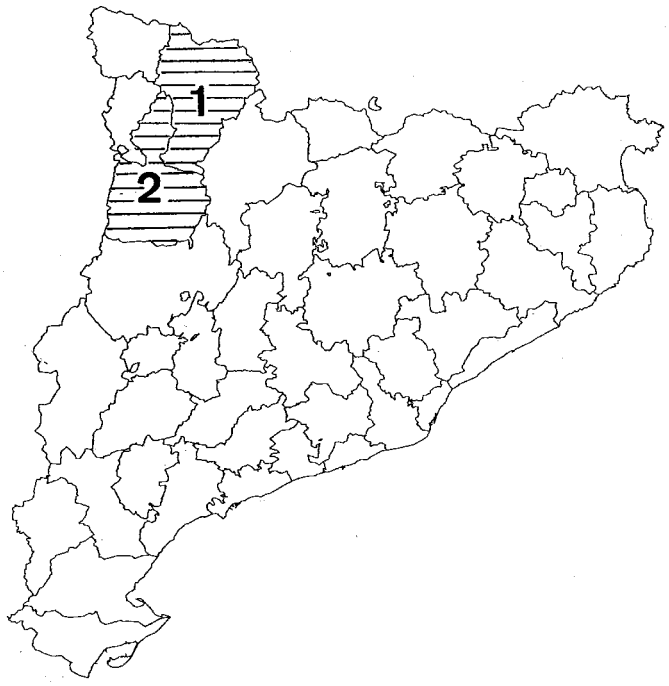

typical of the southern plains and nearby Sub-Pyrenean Mountains. Rainfall ranges from 600 to 1300 mm/year – snow being a normal phenomenon in many zones – and temperatures oscillate between – 31C (January) and 41C (July). The altitudinal and climatic variation cause a highly diverse vegetal landscape with forest as the main vegetation.

From the second half of the 19th century, the population in Pallars has constantly decreased, and has reduced from more than 50,000 in 1850 to the present 19,000 (Sabartés 1993). This process has been particularly dramatic since 1960. People have left the region to migrate to large cities, like Barcelona, the capital of Catalonia, or large villages. The depopulation has been a current trend in rural areas in the country, especially in the mountains, of which Pallars is one of the clearest examples. Relative isolation has been added to the problems of the people in Pallars. Until recent times, the communications network (roads, railways) was very inefficient. This caused El Pallars Jussà and El Pallars Sobirà to be two rather marginal districts in the Catalan economy. Both areas belong to the socio-economic territorial unit called the Catalan High Pyrenees (Carreras 1983), which comprises the main mountain zones in the country. Agriculture and livestock are the basis of the Pallars' economy, even though the tertiary sector and other activities such as iron mining and forestry are also important.

Various authors have contributed to the study of ethnobotany – in the wide sense – in Pallars. Among them, Ramon Violant i Simorra has been particularly active. He was born in Pallars and he studied his region before the great depopulation. His numerous articles, published between 1930 and 1960, have been reedited together (Violant 1979-1981). We can also cite the works of Griera (1923-1964), Llensa (1946, 1950, 1953, and 1959), Font (1948, 1961), Lluís (1967) and Amades (1982). Nevertheless, data concerning popular uses of medicinal plants are scarce and often insufficient.

Methodology

Information was obtained by the method of the ethnobotanical interview with people born or having lived most of their lives in the region. They were usually elderly. We assessed how people used plants for health purposes through general conversations with open questionnaires. We asked people to collect plants with us and to show us where and how they stored the plants and how they prepared the remedies. If it was not possible to collect plants with the informants, we showed them specimens we had col-

lected ourselves in the region to confirm the identity of each taxon. We avoided asking direct questions that could prompt an implicit answer, so as not to coerce the informants and decrease their spontaneity. We verified that many people are highly influenced by these questions and very often simply tend to answer yes. Whenever possible, the conversations were recorded and, once back in the laboratory, transcript. The field and laboratory work lasted more than five years, during which time we performed 155 interviews with 264 people between 30 and 101 years of age (mean age, 70 years; 48% women, 52% men) living in 120 population units. In most cases, there was more than one interview session; the total time of interview recorded is 395 hours. Voucher herbarium specimens of every taxon cited were prepared and deposited in the Herbarium of the Laboratory of Botany, Faculty of Pharmacy, University of Barcelona (BCF). Complete records of the interviews are also kept in this Laboratory. Further details of the interviews are given in the doctoral thesis of one of the authors (Agelet 1999). For plant nomenclature, we follow Bolòs *et al.* (1993).

Results and discussion

Plants involved in magic rituals

We documented a total number of 437 species with uses in the field of health in Pallars. Forty of them are used with magicotherapeutic and/or magicoprophylactic purposes, in most cases with a ritual component. These 40 taxa are listed in Table 1, with their claimed properties. We considered plants to be magicotherapeutic or magicoprophylactic if they had a use and a process that fell into the category of magic or sacred, as usually understood in the cultural anthropology sense. We followed the statements of Frigolé *et al.* (1983) – and similar reflections by other authors such as Caro Baroja (1966), Evans-Pritchard (1976), Hoebel and Weaver (1985), Barandiarán (1991) and Eliade (1994) – that the object of magic practices is the direct coercion of mystic powers with the intention of acting on the material world, whereas religious practices deal with supernatural powers that can be supplicated but not manipulated.

Only two of the species cited in Table 1, *Carlina acanthifolia* and *Salix viminialis*, are strictly used with magical connotations; the others also have therapeutic or prophylactic uses but are not linked to magic practices. Indeed, a good number of the plants used with magicotherapeutic or magicoprophylactic ends have a wide spectrum of folk uses and are very

Table 1. Plants used with magicotherapeutic or magicoprophylactic purposes in Pallars

Scientific name	Catalan names in Pallars	Medicinal activity
Abies alba Mill	Avet	Illness preventive
Alchemilla alpina L.	Herba desinflamatòria, peucrist	Antimycotic
Allium ampeloprasum L.	All bord, all de bruixa, all de serp	Ophidia repellent
Allium sativum L.	All	Antiverrucose, antiseptic, illness preventive, ophidia repellent
Amelanchier ovalis Medic.	Corner, cornera, cúrnia	Illness preventive
Arundo donax L.	Canya	Protective against ophidia
Asplenium trichomanes L.	Falzilla, herba de la pressió, gitana, herba pigotera, sardineta	Antimycotic
Avena sativa L.	Civada	Acaricide, antiverrucose, antieczematose
Buxus semprevirens L.	Boix	Antiverrucose, anticholagogue, ocular antiseptic, illness prevention
Carlina acanthifolia All. subsp. *cynara* (Pourr. Ex Duby) Arcang.	Card, cardigàs, cardimells, cardot, carlina	Illness preventive
Clematis vitalba L.	Vidalba, vidigarsa, vidiguera	Antiseptic
Eryngium campestre L.	Panical, pixallits	Antiseptic
Euphorbia characias L.	Lletera, lletrerola, escampador	Antiverrucose
Ficus carica L.	Figuera	Antiverrucose, galactofugue
Fraxinus excelsior L.	Freixe, freixa, freixera	Ophidia repellent
Hordeum vulgare L.	Ordi	Buccopharyngeal antiseptic
Hyssopus officinalis L.	Hisop	Vulnerability
Inula helvetica Weber	Àrnica, àrnica borda	Illness preventive
Juglans regia L.	Noguer, nouer	Hypothyroidic, illness preventive
Juniperus communis L.	Ginebre, ginestre	Antiverrucose, antihelminthic, antiophidic, antiseptic
Juniperus oxycedrus L.	Ginebre	Antiverrucose
Juniperus phoenicea L.	Savina	Antiseptic, illness preventive
Laurus nobilis L.	Llorer	Antiseptic, illness preventive
Lavandula angustifolia Mill. subsp. *pyrenaica* (DC.) Guinea	Botja de Sant Joan, herba de Sant Joan, Botja de Sant Pere, espígol, d'estiu, espígol d'obaga, espigoler	Antiseptic, illness preventive
Medicago sativa L.	Alfals, sanfuén	Antitympanitic
Olea europaea L.	Olivera, oliver	Antipyrotic, illness preventive
Plantago lanceolata L.	Plantatge, plantatge de fulla estreta, panyatge	Buccopharyngeal antiseptic
Prunus dulcis (Mill.) D.A. Webb	Ametller	Anticephalalgic
Quercus humilis Mill.	Roure	Hernia reducer
Quercus ilex L.	Alzina, alzinera	Antiverrucose, illness preventive, hernia reducer

Segue tabella 1

Table 1. (Cont.)

Scientific name	Catalan names in Pallars	Medicinal activity
Rosa canina L.	Roser silvestre, gavarrera, gavarrera blanca, gavarrera roja	Antialopecic, antiverrucose, antimycotic, larvicide, illness preventive
Rosmarinus officinalis L.	Romaní, romer	Illness preventive
Rubus ulmifolius Schott.	Barsa, barser, barsera, esbarzer, barsa	Antiverrucose
Ruta chalepensis L. subsp. *angustifolia* (Pers.) Cout.	Ruda	Oxitocic, illness preventive
Salix viminalis L.	Vimenera	Antiverrucose
Santolina chamaecyparissus L. subsp. *squarrosa* (DC.) Nyman	Botja, botja de Sant Joan, botja balnca, camamilla, camamilla borda camamilla del terme, camamilla de roc, camamilla silvestre, flor de Sant Joan, flor de Sant Pere	Antiverrucose, antieczematose, antiseptic
Scirpus holoschoenus L.	Junc, junços	Antiverrucose
Secale cereale L.	Séguel, blat	Antiseptic, buccopharyngeal antiseptic, phytoregulator
Triticum aestivum L.	Blat, forment	Buccopharyngeal antiseptic, ocular antiseptic, phytoregulator
Vitis vinifera L.	Vinya, cep, parra	Antiseptic, diagnostic of whitlow

polyvalent. Among them, *Allium sativum, Fraxinus excelsior, Quercus ilex, Secale cereale, Triticum aestivum and Vitis vinifera* may be cited for their high pharmacological and sociocultural values.

Types of magic uses of plants

The 26 types of magicotherapeutic or magicoprophylactic uses recorded are presented in Table 2. The diseases treated with magicoreligious practices are described by the informants in very generic or ambiguous ways, which sometimes makes it difficult to make a correct classification. The plants were mainly used for antiverrucose and antiseptic purposes as well as illness prevention. These are very common illnesses, with considerable collective repercussion (and which are, of course, also treated with medicinal plants with no magical connotations). Some kinds of illnesses are never treated with a magicoreligious component: abnormalities; blood and circulatory system problems, immunity, metabolic, respiratory and nervous system diseases, nutritional disorders and neoplasias.

The uses found show a high degree of agreement with those reported in neighbouring territories, such as the Huesca province (Villar *et al.* 1992), or some of its parts (Serrablo: Navarro 1994; Monzón district: Ferrández

Table 2. Activities of the 40 plants used with magicotherapeutic or magicoprophylactic purposes in Pallars.

Type of use	Number of species	Percentage (of 40 species)
Acaricide	1	2.5
Antialopecic	1	2.5
Antiverrucose	13	32.5
Anticephalalgic	1	2.5
Anticholagogue	1	2.5
Antieczematous	2	5
Antihelminthic	1	2.5
Antimycotic	3	7.5
Antiophidic	1	2.5
Antipyrotic	1	2.5
Antiseptic	10	25
Buccopharyngeal antiseptic	4	10
Antitympanitic	1	2.5
Diagnostic of whitlow	1	2.5
Galactophugue	1	2.5
Hernia reducer	2	5
Hypothyroidic	1	2.5
Illness preventive	15	37.5
Larvicide	1	2.5
Ocular antiseptic	2	5
Ophidia repellent	3	7.5
Oxitocic	1	2.5
Phytoregulator	2	5
Protective against ophidia	1	2.5
Vulnerary	2	5
Non determined	1	2.5

and Sanz 1993), the region of Cerdanya (Muntané 1991, 1994, 1996) and the river Tenes valley (Bonet 1991, 1994). Some of these areas, like Pallars, are also Pyrenean. A magic use also coincide, but to a lesser extent, with other zones of Catalonia (Gomis 1987; Parada 1997; Selga 1998), the Iberian Peninsula (Junceda 1987; Barandiarán 1991; Mulet 1990, 1991; Blanco 1992; Fernández 1996; Garmendia 2000) and Europe (Frazer 1944; Graves 1983; Lieutaghi 1991; Ribon 1993; Bonnefoy 1998; Pieroni 1998).

In general, there is a clear correspondence between uses and types of medicines: a very high number of magico-religious practices (around 77% of those recorded) are linked to only one plant and to one specific ritual. The

typology of the phytomedicines used in magic processes is the following: 1) one plant (64.21%); 2) mixture of two or more plants (3.15%); 3) plants(s) + plant product (2.1%); 4) plant(s) + animal product (2.1%); 5) plant(s) + inorganic product – usually a stone or a cutting implement – (5.26%). The predominance of simple (one-plant) medicines agrees with the situation in non-magic folk phytotherapy, where these medicines are also the main group (around 55%), but the highest value in the case of magical practices can be seen as a distinctive feature of plant medicine linked to specific rituals. On the other hand, the number of different types of drugs is much lower in ritual practices than in general plant-based folk medicine. Mixtures of different plants often take the form of protective bouquets. This tradition is very old and deeply rooted in rural communities. Our data from Pallars agree with those reported by Violant (1979-1981), Pujiula (1983), Bellmunt (1990), Fourasté and Fourasté (1990), Villar *et al.* (1992), and Roigé *et al.* (1997) from other Pyrenean regions, and with those from other geographical areas (Aiats *et al.* 1984; Arnold-Apostolides 1991; Lieutaghi 1991; Blanco 1992; Ribon 1993; Fernández 1996; Bonnefoy 1998). Protective bouquets prevent illnesses and adversities in general, and are, according to Harris (1974) for historical reasons, often associated to a belief in witches. Witches, persecuted by the Inquisition, became the incarnation of damage, misfortune and evil. The name of one of the species used in Pallars (*Allium ampeloprasum*: *All de bruixa* -witch garlic) is a remnant of this belief. Other species, such as rue (*Ruta chalepensis* and related taxa), are often associated with witches (people say that they are witches similar to herbs). Most protective bouquets in Pallars (around 73%) are linked with Palm Sunday, when they are blessed. They are mostly placed in doors or windows, because people believe that these are the points through which illnesses and troubles enter the home.

Factors associated with magical uses of medicinal plants

The parts of the plants used or the period of administration of medicines are often regulated by numbers (basically 3, 7, 9, and other odd numbers). This is also a ritualistic element, which is not limited to only the 40 plants with magic uses. For instance, 109 of the 410 (26.6%) plant species claimed to be medicinal in Pallars are administrated in so-called *Anovenes*, periods of nine days (nine days taking the medicine and nine days without it, or nine days increasing and nine days decreasing the doses, or other similar models). This agrees with the studies of Peris and Stubing (1993), Gavilanes (1995) and Bonet *et al.* (1999) in other areas. The use of herbal remedies is also often associated with prayers, as Martí (1989) pointed out. In the re-

gion studied, these prayers are not very common in connection with plants, although some of them are said during processes involving phytomedicines. Nevertheless, medicinal prayers exist independently of magic plants, and constitute another kind of therapeutic or prophylactic resource.

Two case examples

As two case examples, and with the help of illustrations (Fig. 2-7), we report the sequence of two particular rituals in Pallars magic medicine linked to plants. The first one (Figs. 2-4) is the operation named *Atallar* (aristó),

Figures 2-4. *ATallar l'aristó*. 2. A piece of wood is placed on the affected leg. Three grapevine (*Vitis vinifera*) stems, each one with three knobs, are placed on the wood. 3. The ritual officiant cuts the three stems in the three knobs. While the knobs are being cut a prayer is recited. 4. If the stem fragments jump when the officiant cuts them, this means that the animal is ill and the stem fragments have to be burned.

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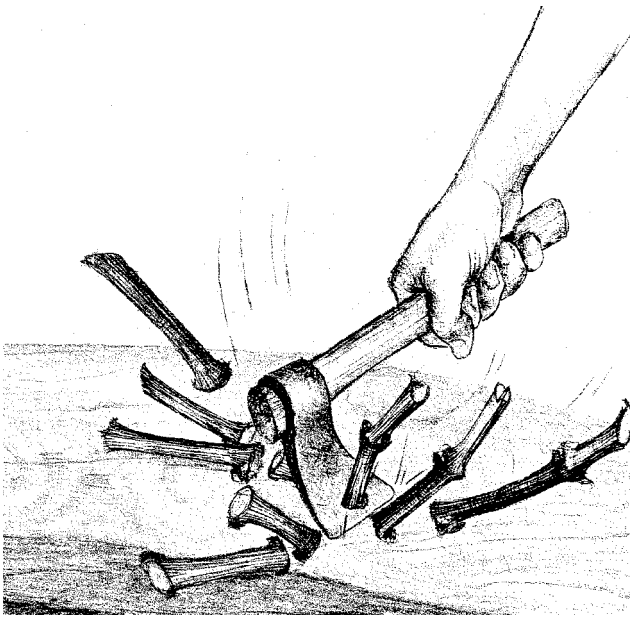

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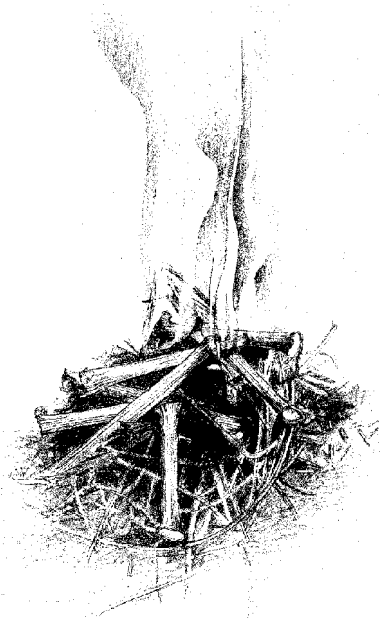

which consists of the magicoritual treatment of a chronic articular infection in animals or people. We exemplify the operation in sheep. The second one (Figs. 5-7) is the operation known as *Aixafar la gavarrera*, a ritual used to treat miases in animals or people.

Concluding remarks

In Pallars, magico-therapeutic and magico-prophylactic plant uses are based, as Coppo (1998) described in some African societies, on a cause-effect sequential chain, and on a set of analogies, coincidences, similarities and intuitions. In our experience, the main features of magicoreligious practices linked to the plant world in the region studied are the following:

Figures 5-7. *AAixafar la gavarrera*. 5. The officiant looks for a wild rose (*Rosa canina* and related species) and collects nine stones approximately as big as a wrist. He/she takes his/her shoes off, makes the sign of the cross and treads on a branch. 6. The officiant kneels on the rose and places the stones on the branch. 7. The officiant recites the *Pater noster* three times. Finally, when the animal or the person has recovered from miasis, the officiant must remove the stones from the branch.

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1) Predominance of syncretic and eclectic practices.
2) Magic mentality as a set of naturalist and animist patterns, associated with materialist and pragmatic attitudes and, often, with supernatural beliefs.
3) Effectivity is based equally on the plants used and on folk beliefs and the associated ritual processes.
4) Preponderance of prophylactic and therapeutic practices.
5) Protective bouquets are one of the most significant elements. They are used as amulets and considerably varied in composition and uses.
6) Association between most practices and processes of identification between the disease and the plant, to which the illness is often transferred from the person.
7) Frequent association with saints mostly Saint John.
8) Low incidence of prayers.
9) Presence of particular (mostly odd) numbers, especially 3, 7 and 9.
10) Most of the magic plants are cultivated or favoured by the traditional agricultural system.

Acknowledgements

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