

Repertory of standard herbal drugs in the Moroccan pharmacopoea

Jamal Bellakhdar^a, Renée Claisse^b, Jacques Fleurentin^c and Chafique Younos^c

^aPharmacien chercheur, Association Al Biruniya, BP 6303 and ^bFaculté de Médecine et de Pharmacie, Rabat (Morocco), ^cLaboratoire de Pharmacognosie, Université de Metz et Institut Européen d'Ecologie, 1, rue des Récollets, 57000 Metz (France)

(Accepted June 14, 1991)

The traditional uses of plants for medicine were studied in Morocco. To this date, 231 medicinal plants belonging commonly to the Moroccan pharmacopoea have been identified and are presented in a table with the vernacular name in Arabic and/or Berber, the ecological distribution, the useful part and the medicinal use. The study of the main therapeutic indications of the medicinal plants gives a clear picture of the health problems which are treated by traditional medicine in Morocco.

Key words: traditional medicine; Morocco; traditional pharmacopoea

Introduction

Although the flora and the vegetation of Morocco are well known today, only a few recent field works have been done on the traditional medicine of Morocco (Bellakhdar, 1978, 1987; Bellakhdar et al., 1982; Boulos, 1983; Claisse, 1985; Venzlaff, 1977); some earlier works seem very interesting as references of the traditional medicine before the introduction of modern healthcare (Gattefossé, 1921; Bulit, 1922; Renaud et Colin, 1934; Charnot, 1945; Nauroy, 1954).

Morocco is a mountainous country crossed from east to west and from south-west to north-east by four mountains of the Rif, the Middle Atlas, the High Atlas and the Anti-Atlas. Between the highlands lie cultivated plain and plateau. Strong climatic influence and rainfall are due to the natural borders of the west and north, respectively 2000 km coast of Atlantic ocean and Mediterranean sea. On the opposite, the south

desertic sahalian provinces represent approximatively half of the country.

The diversity of the biotopes (well irrigated highlands, Mediterranean coast, desert) allow a rich flora evaluated at 4200 spontaneous species and about 1500 introduced species (industrial, alimentary, ornamental etc.) (Jahandiez and Maire, 1931–1934; Maire, 1952–1980; Negre, 1962; Ozenda, 1977).

The particular geographical location of Morocco, at the crossroads of Europe and Africa, has favoured meetings between men and cultures. The original inhabitants were the Berbers. During antiquity Phoenicians, Punics and Romans introduced cities and trading posts, but Vandal invasion ended this period; some small Jewish communities immigrated also throughout the country.

The major event in Moroccan history was the Arab conquest and the Islamisation of the country from 647 A.D. The foundation of the first Moroccan state in the 8th century was made by the Idrissids. The Arabo-berber civilisation has integrated Hispano-moresque, Jewish, middle oriental and Saharian cultural backgrounds.

Correspondence to: Jacques Fleurentin, Institut Européen d'Ecologie, 1, rue des Récollets, 57000 Metz, France.

The present medical tradition belongs to three main medical models. The first represents classical Arab medicine, based largely on the humoural theories. The second is a local popular medicine which constitutes a standard know-how throughout the country and the third can be defined as magico-religious practices, based on indigenous beliefs on spiritual causes of disease.

Materials and Methods

We have made an inventory of herbal medicines commonly prescribed in traditional Moroccan therapy excluding animal, mineral and synthetic medicines. Drugs were selected for their nationwide ubiquity and high turnover in herbalist's shops. Herbal drugs specific to some local areas

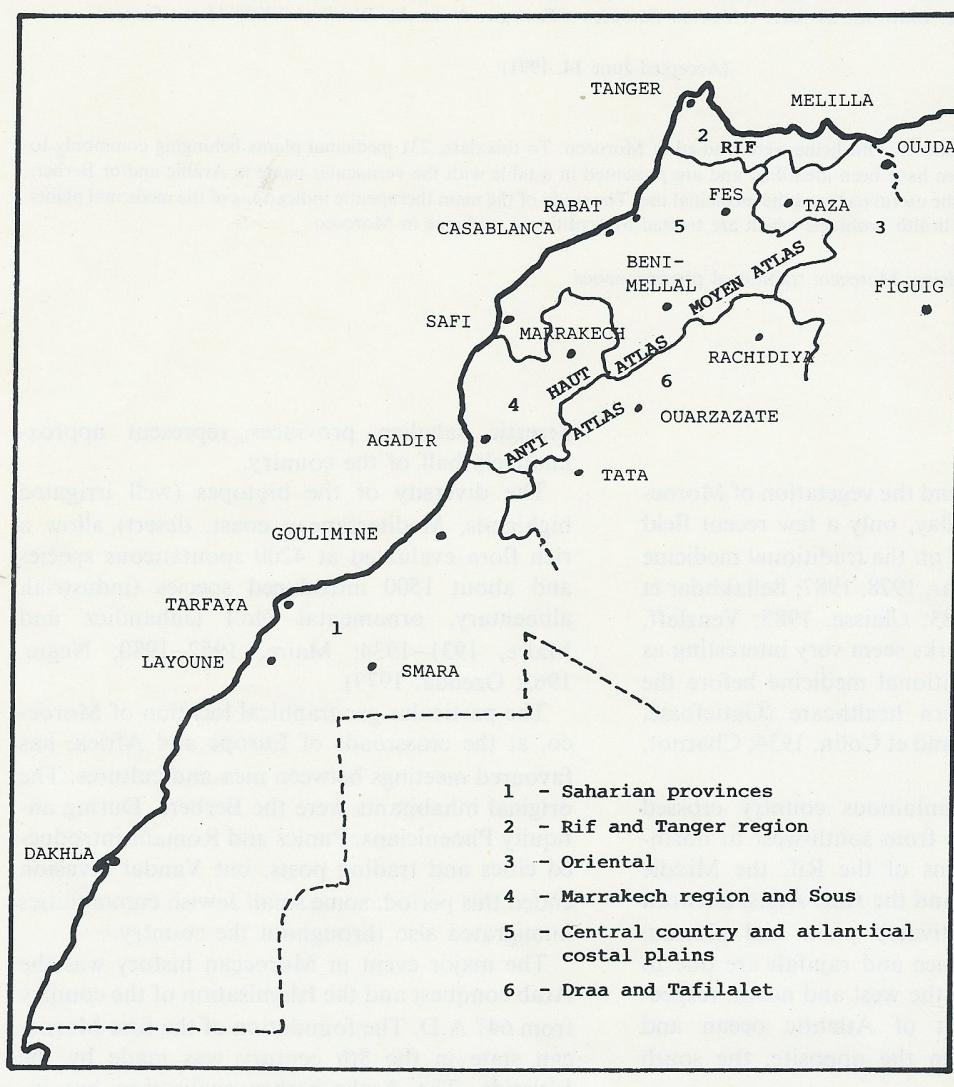


Fig. 1. Morocco.

were excluded because they require local know-how and will be published later.

Information was obtained from traditional healers in the six main provinces of the country: Saharian provinces, Rif and Tanger region, Oriental, Marrakech region and Sous, Central country and Atlantic coastal plains, Draa and Tafilalt (Fig. 1). Two types of medical practice can be distinguished: (1) physicians called *fqih* or *taleb* who gave diagnosis, cures, prescriptions and eventually traditional medicines; in the same category are some other auxilliaries such as midwives, cautary practitioners, bone setters, and (2) herbalists ('*ašabin*) who provide medicinal plants and sometimes only recommendations. This last category tends to replace the previous one.

For each drug the following information was gathered and set on a identity card previously described (Bellakhdar, 1986).

- name of the prescriber or informant with their usual language, ethnic group and trade
- date and place of gathering of information
- name of the drug: botanical name and vernacular name in Arab (a) or Berber (b); transliteration is presented in Table 1

TABLE 1
TRANSLITERATION

Name of the letter	Symbol	Transliter- ation	Name of the letter	Symbol	Transliter- ation
1 alif	ا	â	15 dâd	ڏ	ڏ
2 bâ	ٻ	b	16 tâ	ٻ	t
3 tâ	ٿ	t	17 zâ	ڙ	z
4 tâ	ٿ	t	18 'ayn	ع	'
5 jîm	ج	j	19 qayn	ڇ	g
6 hâ	ڦ	h	20 fâ	ڻ	f
7 kâ	ڦ	k	21 qâf	ڦ	q
8 dâl	ڏ	d	22 kâf	ڪ	k
9 dâl	ڏ	d	23 lâm	ڻ	l
10 râ	ڙ	r	24 mîm	ڙ	m
11 zâ	ڙ	z	25 nûn	ڙ	n
12 sîn	ڦ	s	26 hâ	ڻ	h
13 ūñ	ڦ	v	27 wâw	ڻ	â
14 sâd	ڦ	s	28 yâ	ڻ	i

- place of origin (local or imported, growing wild or cultivated species, chorology)

- part used: aerial parts (AP), leaves (LE), flowers (FL), fruits (FR), seeds (SE), aril (AR), stems (ST), roots (RO), wood (WO), bark (BK), gum (GU), bulb (BU), rhizome (RH), gall (GA), stigma (SM), extract (EX), pericarp (PE), oil (OI), oil cake (OC), tar (TA), tuber (TU)

- properties, uses, preparation, administration of drugs, therapeutic association when several plants are used in the same recipe; toxicity, side effects and associated treatments; magico-religious practices

Plants have been identified by Bellakhdar and Benabid (E.N.F.I. Salé) and compared to the herbarium of Rabat (Institut scientifique). *Flore de l'Afrique du Nord* (Maire, 1952–1980), *Catalogue des Plantes du Maroc* (Jahandiez and Maire, 1931–1934), *Flore du Sahara* (Ozenda, 1977) and *Petite Flore des Régions arides du Maroc occidental* (Negre, 1962) have been consulted.

Results

Each information card was accompanied by a specimen incorporated in the drug collection. Two hundred and thirty-one medicinal plants have been identified and the results are recorded in a synoptic table (Table 2) with name of drugs, part of the plant, geographical and ecological distribution, and medicinal use; other information will be the subject of another paper.

Relationship between the medicinal plants and the milieu

The medicinal plants were classified according to their origins. Among the 231 major drugs inventoried, 63 (27%) are cultivated species, 36 (15.5%) imported species, 15 (6.5%) endemic species from Magreb, Morocco or Sahara. The main group of 132 (51%) is formed by wild species from the Mediterranean flora. They appear in most Mediterranean folk pharmacopoeia, albeit with original therapeutic claims.

Relationship between medicinal plants and pathology

The plants have been classified according to their main therapeutic indications (Table 3). The

TABLE 2
DRUGS AND MEDICINAL PLANTS OF MOROCCO

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOPGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
	<u>EIZOACEAE</u>				
172	<i>Aizoon</i> sp.	جَسْسُلْ لِجْسِي	AP	spontaneous	antidote poison emetic
	<u>AMARANTACEAE</u>				
125	<i>Amaranthus blitoides</i> S. Wats.	سَكْتَةٌ ، نَبْتَةٌ	SE	spontaneous	magic
	<u>ANACARDIACEAE</u>				
D 142	<i>Fistacia lentiscus</i> L.	مَنْكَنْكَنْكَنْ	GU	spontaneous	magic, oral hygiene, cardiac stimulant
D 351		ثُنْدُرٌ	LE		
D 352	<i>Fistacia atlantica</i> Desf.	زَيْبَقُ الْمُطْمَئِنْ	FR	endemic in North Africa	aid to menstruation, for gastro-intestinal disorders, hair-care, diuretic, astringent stomach-ache
D 175		شَفَقٌ ، قَوْدَانْشٌ	GA		cosmetic, hair-care, antipyretic, for stomach diseases
	<u>ANONACEAE</u>				
D 108	<i>Xylophia aethiopica</i> A. Rich.	بَزارْ دَكَارْ	FR	imported	aphrodisiac, calefacient
	<u>APIACEAE (UMBELLIFERAE)</u>				
D 441	<i>Ammi majus</i> L.	أَنْثِيلْ	FR	spontaneous	vitiligo
D 609	<i>Ammi visnaga</i> Lam.	بَشْنَجَنْ	FR	spontaneous	against headache, antivertigo, hypoglycemic, dental hygiene
D 303	<i>Ammodaucus leucotrichus</i> Coss. et Dur.	كَمُونْ سُوفِي	FR	endemic in Sahara	gastro-intestinal antiseptic, antidiarrheal
	<i>Anethum graveolens</i> L.	شَبْتٌ	FR	cultivated and spontaneous	aphrodisiac, gastro-intestinal antiseptic
D 318	<i>Apium graveolens</i> L.	زَرِيقَةُ الْكَرْفَصِ	FR	spontaneous and cultivated	cure for urinary disorders
D 310	<i>Carum Carvi</i> L.	كَرْبِيَا	FR	cultivated	digestive stimulant, spasmolytic, analgesic, sedative for children
D 633	<i>Coriandrum sativum</i> L.	بَخْرُجُونْ	FR	cultivated	magic, against scurvy, anti-rabic, stomachic, aphrodisiac, tonic, antiinflammatory
		بَخْرُجُونْ الْجَنْ			

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 320	<i>Cuminiun Cymînum</i> L.	كَمُونْ زَرِيْتَهْ جَنْوَهْ	FR cultivated	stomachic, intestinal antiseptic	
D 324	<i>Daucus Carota</i> L.	كَمُونْ زَرِيْتَهْ جَنْوَهْ	FR cultivated	cure for urinary infections	
D 152	<i>Eryngium</i> sp.	مَعْزُولْ	RO spontaneous	calefacient	
D 132	<i>Ferula asa-foetida</i> L.	حَنْتَسِتَهْ	GU imported	magic, antiepileptic	
	<i>Ferula communis</i> L.	كَلْفَتَهْ	FL spontaneous	antispasmodic, toxic	
D 136		فَسْقَعْ	GU	magic, hair-care, anthelmintic, antidote poison	
D 156	<i>Foeniculum vulgare</i> Gaertn.	نَافَّهْ	FR spontaneous and cultivated	liver complaint, Pancreas complaint, dyspnoea, tonic	
D 167	<i>Hippomaratum libanotis</i> L.	كَلْبَغْ	RO spontaneous	antirheumatismal	
D 621	<i>Kandiania sicula</i> (L.) DC.	زَيَّاتَهْ	RO spontaneous	oedema, colon diseases	
D 106	<i>Magydaris pastinacea</i> Paol. <i>M. paniculifolia</i> Lange	فَرِيْغَهْ	FR spontaneous	hair-care	
	<i>Petroselinum sativum</i> Hoffm.	مَعْدَنْهُشْ	AP cultivated	hypnotic	
D 347	<i>Pimpinella anisum</i> L.	كَلْبَهْ حَلَّاهْ	FR cultivated and imported	aphrodisiac, antidote poison, aperitive for aerophagie, digestive difficulties	
D 113	<i>Smyrnium olusatrum</i> L.	هَيَّارْهْ هَبَّهْ جَرِيْهْ	SE spontaneous	magic, calefacient	
D 372	<i>Thapsia garganica</i> L. and <i>T. villosa</i> L.	ذُورِيَّاتِهْ	RO spontaneous	analectic, antirheumatismal, revulsive	
	<u>APOCYNACEAE</u>				
D 339	<i>Nerium oleander</i> L.	دَغْلَهْ	LE spontaneous	against itching, against headache antivertigo	
	<u>ARISTOLOCHIACAE</u>				
D 642	<i>Aristolochia longa</i> L.	بَارْدَهْ طَهَّ	RO spontaneous	laxative, for intestinal disorders, aid to menstruation, againts palpitation	
	<u>BRASSICACEAE (CRUCIFERAE)</u>				
D 650	<i>Anastatica hierochuntica</i> L.	الْكَمِيشَهْ	AP spontaneous	delivery difficulties, magic	
D 662	<i>Brassica napus</i> L.	كَفْتَهْ تَوْنَهْ	SE cultivated	magic	
		سَكَلْتَهْ مَسْكُوتَهْ			

TABLE 2 (Continued)

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 840	<i>Brassica nigra</i> (L.) Koch	کَرْدَلْ لَكْشَهْيَهْ kardal lekshayeh habb-i-kardal	SE	cultivated and spontaneous	magic, caleafient, revulsive
D 186	<i>Diplotaxis</i> sp.	كَرْكَازْ kerkaz	SE	spontaneous	caleafient
	<i>Eruca</i> sp.	كَرْكَازْ kerkaz	SE	spontaneous	caleafient
D 333	<i>Lepidium sativum</i> L.	هَبْ رَسَادْ hebb r-rasad, l-nurf	SE	cultivated	for broncho-pulmonary infections, delivery difficulties, tonicardiac, revulsive
	<i>Raphanus</i> sp.	بُو حَمَّامْ bū hammā kerkaz, jirjir	SE	spontaneous	caleafient
	<u>BRYOPHYTA</u>				
	<i>Hemitelia cuneatum</i> (Lagasca) B.E., <i>Hypnum Cupressiforme</i> Hedw.	سَنْبَلَةَ بَرْ snibla	AP	spontaneous	hair-care, antivertigo, kidney diseases
	<u>BURSERACEAE</u>				
D 149	<i>Boswellia carterii</i> Birdw.	سَالَابَرْ salabar, kender, hasālbān	GU	imported	magic, antitussive, cosmetic
D 120	<i>Commiphora africana</i> (A. Rich.) Engl.	كَنْدِينْ umm-enrās 1-hōr	GU	imported	magic, cosmetic, for digestive and pulmonary disorders, stomachic
D 432	<i>Opuntia ficus-indica</i> Mill.	نَوْمَارْ الْجَمِيْعُونْ newwār 1-kermüs, newwār 1-hendiya	FL	spontaneous and cultivated	diuretic, cure for uterus, kidney and bladder infections
	<u>CANNABACEAE</u>				
	<i>Cannabis sativa</i> L.	الْكَفْ 1-kif	AP	cultivated	narcotic
		سِرَرا sirra	GU		
	<u>CAPPARACEAE</u>				
D 406	<i>Capparis spinosa</i> L.	كَبَّارْ kebbār	FR	cultivated and spontaneous	antirheumatismal, stimulant, against painful menstruation
	<u>CARYOPHYLLACEAE</u>				
D 66	<i>Corrigiola telephifolia</i> Pour.	تَرْجُونْ، تَرْجُونْتْ ba kur al barbar	RO	spontaneous	cosmetic, hair-care, magic, for liver deseases, spleen and lung disorders

COLL. N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOPGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 608	<i>Hemimelia</i> sp.	هَرْسَلَةٌ لَهْجَةٌ	AP	spontaneous	
D 363	<i>Silene</i> sp.	تِيجَةٌ، تِيجَشْتٌ	RO	spontaneous	diuretic, kidney diseases
D 378	<i>Spargularia marginata</i> (DC.) Kit.	بَعْدَةٌ صَفَرَادِيٌّ	RO, RH	spontaneous	hair-care , foaming
	<u>CHENOPodiaceae</u>				calefacient, for sterility, expectorant
D 440	<i>Frederolia aretoides</i> Coss. Moq.	سَجْرَى مَا يَقْصُدُ الْمَرْجَنْ	AP	endemic in Sahara	antirheumatismal, diuretic, antidote poison
	<u>COMBRETACEAE</u>				
D 445	<i>Terminalia Chebula</i> Retz.	حَلْدَانٌ كَهْلٌ	FR	imported	astringent, for liver, stomach and bowel disorders
		خَبَيْثَنْ سَوْنَ			
	<u>COMPOSITE</u>				
D 416	<i>Anacyclus pyrethrum</i> L.	أَنْجَارَجَاهٌ، حَاجَنْ	RO	spontaneous	toothache, antirheumatismal, analgesic, against liver pain, anthelmintic (tinea)
		تِيجَنْدِيزٌ، جَنْتُوسٌ،			
		تِيدِنْتَاسٌ،			
		وَادِي الْأَطْسَاسِ			
D 178	<i>Anvillea radiata</i> Coss. et Dur.	نَوْجَدٌ	FL	endemic in Sahara	liver pain, vaginal antiseptic
D 305	<i>Artemisia arboreascens</i> L.	سِبَا	AP	cultivated and spontaneous	anthelmintic, diuretic, aid to menstruation,
D 306	<i>Artemisia herba-alba</i> Asso.	سَاهٌ	AP	spontaneous	abortive, aperitive
	<i>A. Mesariatica</i> Maire				gastro-intestinal antiseptic, anthelmintic
D 653	<i>Attractylis gummifera</i> L.	أَدَادٌ	RO	spontaneous	antidote poison, hypoglycemic, aid to menstruation
D 173	<i>Broccchia cinerea</i> (Del.) Vis.	غَرْتَفَا	AP	endemic in Sahara	against headache, anti-vertigo, toxic,
D 439	<i>Carthamus tinctorius</i> L.	'usfir, za'afrañ	FL	cultivated	against freckles, against itch
D 177	<i>Centaurea chamaerhaponticum</i> Ball.	تَافِغَا	RO	endemic in North Africa	for pulmonary infections and stomach pains
D 314	<i>Cichorium Intybus</i> L.	بَعْدَلَةٌ	AP, RO	spontaneous	cosmetic, ophthalmic antiseptic, laxative
	<i>Cynara cardunculus</i> L.	كُورْسُوفٌ	RO	cultivated	for gastro-intestinal and hepatic disorders
D 166	<i>Cynara humilis</i> L.	لَهْكَكٌ	FL	spontaneous	diuretic, hepatic disorders
D 153	<i>Echinops spinosus</i> L.	تَاسِكَرَا	RO	spontaneous	for digestive disorders
		الْمَكْنَكَنْ			to make curdled - milk
					diuretic, hypoglycemic, stomachic, for liver disorders. Post partum care

TABLE 2 (Continued)

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 160	<i>Helianthus annuus</i> L.	'ayn sems ماجران، تريليا	SE RO	cultivated spontaneous	laxative Reconstituant
	<i>Inula viscosa</i> (L.) Ait.		AP, FL		for digestive disorders, against headache
D 344	<i>Ormenis praecox</i> (Link.) Briq.	bâbûnj, bâbnûj	AP	endemic in Morocco and Sahara	for uterus infections, icterus
D 177	<i>Warionia saharae</i> Benth. Hook.	afezzâz, afessâz			
<u>CUCURBITACEAE</u>					
D 170	<i>Citrullus colocynthis</i> Schrad.	الحدج، محظل	FR	spontaneous	laxative, aphrodisiac, hypoglycemicant, anthelmintic, against tinea, against gonorrhoea, antiepileptic, toxic
D 317	<i>Cucumis melo</i> L.	زَرِيْبَتْ لَفْنُونْ	SE	cultivated	antitussive, anthelmintic, digestive, stimulant
	<i>Cucurbita lagenaria</i> Forsk.	زَرِيْبَتْ سَلَوِيْ	SE		antiasthmatic, for bronchopulmonary infections
D 158	<i>Cucurbita pepo</i> L.	زَرِيْبَتْ الْقَوْمَا	SE	cultivated	antiasthmatic, for intestinal disorders
	<i>Echallium elatiorium</i> (L.) A. Rich	فَعُونِيْنْ لَفْنُونْ	RO, FR	spontaneous	toxic, emetic, drastic
<u>CUPRESSACEAE</u>					
D 639	<i>Juniperus phoenicea</i> L.	عَرْدَرْ دُرْدِم	AP	spontaneous	urinary antiseptic, aid to menstruation, stomach pains
D 118	<i>Tetraclinis articulata</i> Masters.	'ar'âr	AP	spontaneous	antidiarrheal, antipyretic, antivertigo, against headache, magic, astringent
D 407		sendârûs	GU		magic, dental care
D 366		qîtrân el 'galid	TA		hair-care, for skin diseases
<u>CYPERACEAE</u>					
D 184	<i>Cyperus longus</i> L.	târa	RH	spontaneous	cosmetic, reconstituant, aromatic
D 671	<i>Cyperus rotundus</i> L.	tamûsayt, سَادِيْنْ	RH	spontaneous	cosmetic, hair-care, tonic
D 185	<i>Cyperus</i> sp.	târa sahariyya تَارِ صَحْرَى	RH	imported	cosmetic, hair-care, aromatic

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
	EUPHORBIACEAE				
D 174	<i>Croton tiglium</i> L.	habbet melk ferbyân, tikiüt awriwra, kerwa'	SE GU SE	imported endemic in Morocco spontaneous	drastic
D 401	<i>Euphorbia resinifera</i> Berg.				abortive, drastic, magic, toxic, cure for skin infections and carache
D 635	<i>Ficus communis</i> L.				laxative, toxic
	FAGACEAE				
D 319	<i>Castanea sativa</i> Mill.	qestâl عَصْلَى	FR	imported	magic, urinary antiseptic, astringent
D 625	<i>Quercus faginea</i> Lam.	'asfa	GA	spontaneous	vaginal antiseptic, hair-care, anti- diarrheal, astringent, epistaxis, mouth hygiene
D 174	<i>Quercus suber</i> L. Q. Ilex L.	d-dbâj	BK	spontaneous	hair-care, bowel and colon infections
	GENTIANACEAE				
D 628	<i>Centaurium erythraea</i> Rafn.	gosses 1-hayya	AP	spontaneous	hypoglycemic, antipyretic, cardio- regulator, depurative
	GLOBULARIACEAE				
D 426	<i>Globalaria alpyrum</i> L.	'ayn lerneb	LE	spontaneous	laxative, hypoglycemic
	GRAMINAE				
D 622	<i>Andropogon Schrenkii</i> L.	idkir	RO	spontaneous	antipyretic, diuretic
D 338	<i>Cynodon dactylon</i> L.	n-njem, rjel legrâb	RH	spontaneous	diuretic
D 161	<i>Pennisetum typhoides</i> Rich.	illân	SE	cultivated	tonic, for born fractures, reconstituant
D 681	<i>Sorghum vulgare</i> L. ssp. <i>Darra</i>	beenâ, tefsüt	SE	cultivated	for digestives disorders
D 370	<i>Zea mays</i> L.	lahyat drâ	SM	cultivated	diuretic, against kidney stones
	IRIDACEAE				
D 316	<i>Crocus sativus</i> L.	za'afraân 1-hôr	SM	cultivated	cosmetic, aid to menstruation, cardiac stimulant, abortive
D 680	<i>Iris germanica</i> L. <i>I. pseudacorus</i> L. <i>I. florentina</i> L.	'id el 'anbar	RH	cultivated	cosmetic, reconstituant, antirheumatismal

TABLE 2 (Continued)

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
	JUGLANDACEAE <i>Juglans regia</i> L.	جوز، جوزة sswak	FR BK of RO	Cultivated	antidote poison, tonic dental hygiene
D 187					
D 188	JUNCACEAE <i>Juncus acutus</i> L. <i>J. maritimus</i> L.	سماز	PR	spontaneous	diuretic, against insomnia, against cold
	LAMIACEAE				
D 133	<i>Ajuga iva</i> L.	شندق	AP	spontaneous	anthelmintic, for intestinal disorders, panacea
D 307	<i>Calamintha officinalis</i> Moench.	منتن	AP	spontaneous	for pulmonary infections, refreshing
D 429	<i>Lavandula X abrialis</i>	خواه قصيضا	FL	cultivated	cosmetic, magic, hair-care, for urinary and gynaecological infections, against cold
D 330	<i>Lavandula stoechas</i> L.	helħal	AP	spontaneous	calefacient, nervous diseases, antitussive
D 331	<i>Lavandula multifida</i> L.	كحيلاد	AP	spontaneous	gastro-intestinal antiseptic, against cold
D 334	<i>Marrubium vulgare</i> L.	مريغوت	AP	spontaneous	diuretic, hypoglycemic, hair-care, antidiarrheal, aid to menstruation, against facial pigmentation marks
D 335	<i>Mentha pulegium</i> L.	فليجو	AP	spontaneous	against chill, cure for bronchopulmonary infections
D 336	<i>Mentha rotundifolia</i> Huds.	تُنْجَى، مُنْجَى بِسَّ	LE	spontaneous	anti-hemorrhoidal, against chill
D 337	<i>Mentha viridis</i> L.	نا'na', liqqâna	LE	cultivated	refreshing, against headache
D 345	<i>Ocimum basilicum</i> L.	لـ-ħbeq	AP	cultivated	against mosquito, sinusitis, tachycardia, antihemorrhoidal
D 116	<i>Origanum compactum</i> Benth.	za'tar	LE	endemic in Morocco	for all diseases, gastro-intestinal antiseptic, mouth hygiene, antiacid
D 343	<i>Origanum majorana</i> L.	مرددوش	LE	cultivated	against chill, antipyretic
D 425	<i>Rosmarinus officinalis</i> L.	أزير	AP	spontaneous and cultivated	for all diseases, aid to menstruation, against chill, gastro-intestinal disorders, liver disorders
D 654	<i>Salvia officinalis</i> L.	سلمي	LE	cultivated	aid to menstruation, diuretic, antiseptic, refreshing, stimulant, cholagog

COLL. N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 361	<i>Salvia verbenaca</i> L.	كِيَّاتَةٌ جِيدِيَا	AP	spontaneous	wound healing
D 168	<i>Teucrium polium</i> L.	جِيدِيَا	AP	spontaneous	against chill, oedema, liver pain, blood-cleansing
D 373	<i>Thymus</i> sp.	زُعْرَةٌ، زَعْرَةٌ تَازُوكِنِي	LE	some species are endemic in Morocco	for all diseases, gastro-intestinal antiseptic
	<u>LAVACEAE</u>				
D 657	<i>Cinnamomum cassia</i> Blume.	قِرْفَةٌ قِرْفَةٌ سَلِيدَةٌ	BK	imported	stimulant, aid to menstruation, digestive stimulant, against headache, cardiac stimulant
D 315	<i>Cinnamomum camphora</i> (L.) J. Presl.	الْكَوْهُورُ	EX	imported	antiseptic, for skin diseases, revulsive
D 171	<i>Cinnamomum zeylanicum</i> Blume.	صَبَرٌ صَبَرِيٌّ	BK	imported	stimulant, against headache, loss of memory, against colds
D 606	<i>Laurus nobilis</i> L.	عَسَاثٌ بِسِينَدٌ مُورَقٌ	LE	spontaneous	dental hygiene, for liver disorders
D 410		حَبَّتُ الْمَاءَرُ	FR		
	<u>LEGUMINOSAE</u>				
D 176	<i>Acacia cyanophylla</i> Lindl.	سِنْقَالٌ سُونْدَىٰ	SE	cultivated	magic
D 302	<i>Acacia cyclops</i> A. Cunn.	سِنْقَالٌ رَقِيقٌ	FR	cultivated	magic
D 180	<i>Acacia gummifera</i> L.	سِنْقَالٌ دَكَنَ	GU	endemic in Morocco	for broncho-pulmonary infections, antitussive
D 678	<i>Anagyris foetida</i> L.	عَلْدَةٌ طَلْعَةٌ	SE	spontaneous	for kidney infections, toxic
D 815	<i>Astragalus gummifer</i> Labill.	حَبَّلُونَ الْكَبَبُ	GU	imported	antitussive, antisthmatic, reconstituant ophthalmic antiseptic
D 134	<i>Cassia absus</i> L. <i>C. glauca</i> Lam.	حَبَّلُونَ حَبَّلُونَ	znina	imported	laxative, for gastro-intestinal disorders
D 427	<i>Cassia fistula</i> L.	كِيَارٌ سَانْبَارٌ وَدَ سَالِبٌ	FR	imported	laxative, for gastro-intestinal disorders
D 430	<i>Cassia italica</i> (Mill.) F.W. Andr.	سَانَ هَارَانٌ سَانَ مَكَكَةٌ	LE	imported	laxative, blood-cleansing
D 312	<i>Ceratonia siliqua</i> L.	كَرِرُوبٌ، سَلِيجَا	FR	cultivated and spontaneous	antidiarrheal

TABLE 2 (*Continued*)

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 313	<i>Cicer arietinum</i> L.	الجُوْمُونْ جِوْمُونْ عَنْ قُصُوسْ	FR cultivated	cultivated	tonic, reconstituant
D 607	<i>Glycyrrhiza glabra</i> L.	'arq sūs	RO imported	sore throat, cholangg, refreshing	
D 436	<i>Lupinus albus</i> L.	termās, semfāla beyda	SE cultivated	hypoglycemicant, for liver disorders	
D 111	<i>Melilotus indica</i> (L.) All.	azridā rtēm	FR spontaneous	hair-care	
D 358	<i>Retama retam</i> (Forsk.) Webb.	timer hendi	ST spontaneous	abortive, toxic, skin diseases, antipruritic, gale	
D 157	<i>Tamarindus indica</i> L.	l-helba	FR imported	laxative, liver pain, refreshing antiinflammatory	
D 159	<i>Trigonella foenum-graecum</i> L.	fūl gnāwa	SE cultivated	reconstituant, hair-care, hypoglycemicant blood-cleansing, aortic-palpitations	
D 437	<i>Vitex sylvestris</i> End.	فُولْ عَنَادِرَا	SE cultivated	hair-care, pulmonary infections	
<u>LILIACEAE</u>					
D 632	<i>Allium porrum</i> L. et <i>Allium</i> sp.	زَجْبَلْ 1-korrat, bsal 1-korrat tūma	BU spontaneous	hair-care	
D 836	<i>Allium sativum</i> L.	bsal	BU cultivated	anthelmintic, antirheumatismal, urinary antiseptic, for pulmonary and digestive disorders, antidote poison, hypotensive.	
D 645	<i>Allium cepa</i> L.	sibr, sibr sidqi	BU cultivated	antiasthmatic, for skin diseases, dental hygiene	
D 374	<i>Aloe succotrina</i> Lam. <i>Asphodelus microcarpus</i> Viv. <i>Asparagus albus</i> L. <i>Asperula maritima</i> (C.) Baker	سَكْوَمْ سَكْوَمْ صَدْقَةْ سَكْوَمْ berwāg	EX imported TU spontaneous	laxative, for skin diseases, hypoglycemicant, magic antirheumatismal, for liver infections aperitive vitiligo, antirheumatismal, for skin diseases (abces) for digestive disorders, otitis	
		بنْ قَعْ		ripening of abces, icterus	
		بَعْضُ الْكَرْتَنْ			
		نَحْلُ الْكَرْتَنْ			
		نَوْمَهْ			
		نَصْلَنْ			
		نَسْنَفْ			
		نَسْكُونْ			
		نَقْلَنْ			
		نَقْلَنْ الْغَيْرَهْ عَوْنَ			

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 637	<u>LINACEAE</u> <i>Linum usitatissimum</i> L.	زَرِيقَةُ الْكَنَّانْ zəri'at l-kattān	SE	cultivated	laxative, emollient, antitussive
D 332	<u>LYTHRACEAE</u> <i>Lawsonia inermis</i> Roxb.	هَنَّا henna	LE	cultivated	magic, cosmetic, hair-care, for skin diseases, for kidney stones, for gastric ulcers
		تَمْرَنْ هَنَّا tmer' henna	FR	cultivated	magic, insecticid
D 631	<u>MALVACEAE</u> <i>Gossypium herbaceum</i> L.	أَرْجَعَتْ كَفَطَنْ zəri'at le-qṭen	SE	cultivated	for gastro-intestinal diseases
D 110	<u>HIBISCUS</u> <i>Hibiscus esculentus</i> L.	أَرْبَقَتْ الْمُخْنِيْ zəri'at al-muñhi	SE	cultivated	antiacid, calefacient
D 189	<u>MALVA</u> <i>Malva sylvestris</i> L.	بَغْلَا bagħla	RO	spontaneous	laxative, emollient
		كَبْرَيْ kabri'	FR	spontaneous	against chill.
		زَرِيقَةُ كَبْرَيْ zəri'at kabri'			
D 403	<u>MORACEAE</u> <i>Ficus carica</i> L.	شَنْبَهْ، شَنْ مُوْحِيْ šənbəh, šən muwih	FR	cultivated	laxative
D 663	<u>MYRISTICACEAE</u> <i>Myristica fragrans</i> Houtt.	عَزْرَقْ شَنْ قْ uzraq šən q	SE	imported	aphrodisiac, stimulant, calefacient, anti-hemorrhoidal, vaginal infections
D 327	<u>MYRTACEAE</u> <i>Eucalyptus</i> sp.	عَزْرَقْ طَبِيبْ uzraq ṭebib	SE, BK	imported	aphrodisiac, against chill, stimulant
D 101		كَلْبُوكْ kalbuk	LE, FR	cultivated	hair-care, for pulmonary diseases, anti-pyretic
		مَعْلَمْ أَكْبَرْ maulam akbar	GU	cultivated	antidiarrheal, magic

TABLE 2 (Continued)

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 428	<i>Eugenia caryophyllata</i> Thunb.	gronfel, 'ud nnuwar	FL	imported	hair-care, cosmetic, antiinflammatory, against spleen disorders
D 169	<i>Myrtus communis</i> L.	r-rhān	LE	spontaneous	hair-care, antidiarrheal, for gastro- intestinal disorders
D 127	<i>Pimenta officinalis</i> Lindl.	nwiwa marrakṣiya, herb el 'arūs	FR	imported	aphrodisiac, calefacient
	<u>OLEACEAE</u>				
D 102	<i>Fraxinus angustifolia</i> Vahl.	lisān t-tir, lisān 1-usfar	FR, SE	spontaneous	aphrodisiac, calefacient
	<i>Jasminum officinale</i> L. <i>J. grandiflorum</i> L.	yasin	PL	cultivated	cosmetic
D 340	<i>Olea europaea</i> L.	wraq zebbij	LE	spontaneous and cultivated	* stomach and intestinal diseases, mouth hygiene
D 341		zit zitun, zit el 'ud	OI		for constipation, liver pain, hair-care, tonic
D 342		l-mi'a	GU		magic
	<u>ORCHIDACEAE</u>				
D 415	<i>Orchis</i> sp., and <i>Ophrys</i> sp.	el ḥayya u-l-miyta	TU	spontaneous	magic
	<u>PAPAVERACEAE</u>				
D 346	<i>Papaver rhoeas</i> L.	belle'mān, ṣqāyeg n-ne'mān	FL, FR	spontaneous	Measles, children's fever
D 130	<i>Papaver somniferum</i> L. var. <i>nigrum</i> L.	kortāsa	FR	spontaneous and cultivated	analgesic, children's insomnia, hiccups
	<u>PEDALIACEAE</u>				
D 362	<i>Sesamum indicum</i> DC.	jenjān	SE	cultivated	hypnotic for children, stimulant, stimulant of lactation
	<u>PINACEAE</u>				
D 311	<i>Cedrus atlantica</i> (Endl.) Carr.	qittān er-raqīq	TR	spontaneous	skin infections, antiseptic, hair-care
D 115	<i>Pinus halepensis</i> L.	tayda, dbāg	BK	spontaneous and cultivated	tuberculosis, skin abces

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 634	<i>Pyrus</i> sp.	u-menâs, er-izâna	GU	spontaneous and cultivated	magic, cosmetic
	<u>FIPERACEAE</u>				
D 348	<i>Piper cubeba</i> L.	kebbâba	FR	imported	
D 349	<i>Piper nigrum</i> L.	l-bzâr lekhel	FR	imported	bladder and uterus diseases, urinary disorders, aphrodisiac, calefacient
D 350		l-bzâr labyed	FR	imported	aphrodisiac, calefacient, reconstituant antitussive
D 129	<i>Piper retrofractum</i> Vahl.	dâr feifel	FR	imported	aphrodisiac, calefacient, magic
	<u>PLANTAGINACEAE</u>				
D 353	<i>Plantago</i> sp.	messâsa ..	LE	spontaneous	ripening of abces, analgesic, local anti-inflammatory
	<u>PLUMAGINACEAE</u>				
	<i>Armeria alpina</i> (Cav.) Hoffn. <i>A. Mauritanica</i> Wall.	'erc wedni	RH, RO	spontaneous	tuberculosis, skin abces, liver pain
	<u>POLYGONACEAE</u>				
D 379	<i>Rumex</i> sp.	zerrî at l-hummâd	FR	spontaneous	laxative, for liver disorders
	<u>PUNICACEAE</u>				
D 191	<i>Punica Granatum</i> L.	qâfir rommân	PE	cultivated	antulcerous, vaginal antiseptic, for gastro-intestinal disorders, hypoglyciant
D 357		rommân amrûj	FL		antidiarrheal, for digestive disorders, antiemetic for children
	<u>RANUNCULACEAE</u>				
	<i>Clematis flammula</i> L.	nâr l-bârda azenu	AP	spontaneous	respiratory, against dropsy, local anti-tumor agent, revulsive
D 325	<i>Delphinium staphysagria</i> L.	habb er-râs	SE	spontaneous	parasiticid
D 434	<i>Migella sativa</i> L.	sâñûj	SE	cultivated	for all diseases, antitussive, antiasthmatic for broncho-pulmonary infections, sinusitis, antidote poison, toxic, abortive, against influenza

TABLE 2 (Continued)

COLL. N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 154	<i>Ranunculus bulbatus</i> L.	wden el-hallūf أَوْدَنُ الْحَلْوَفُ	RO	spontaneous	against chill, calefacient, antidote poison
D 192	<i>Ranunculus</i> sp.	fnīna قِنْيَنَةٌ	RO	spontaneous	antisthmatic, for nervous diseases
D 193	<i>Ranunculus</i> sp.	keff s-sabūn كَفَّهُ صَبْوَنُ	RO	spontaneous	calefacient, for tuberculosis skin abces
	<u>RESEDAEAE</u>				
	<i>Reseda luteola</i> L.	lirfūn لِرْفُونَ	RO	spontaneous	stomachic, antidiarrheal
	<u>RHAMNACEAE</u>				
D 367	<i>Zizyphus lotus</i> L.	wrāq sedra قَرَاقِشُ سَدْرَةٌ	LE	spontaneous	urinary infections, hair-care
D 368		nbg نَبْغٌ	FR		antipyretic, laxative, stimulant, antitussive, against measles
	<u>ROSACEAE</u>				
	<i>Crataegus monogyna</i> Jacq.	za'rūr, admām زَعْدَمَاءُ	FR	spontaneous	laxative and antidiarrheal (according to the fruit ripeness)
	<i>C. laciniata</i> Urc.	mzah مَزَاهُ	LE	cultivated	antidiarrheal for children, for digestive disorders, against hypertension
D 326	<i>Eriobotrya Japonica</i> Lindl.	lūz harr لُوزُ حَارَ	SE	cultivated	cosmetic, hypoglycimiant, tonic
D 355	<i>Prunus amygdalus</i> Stokes var. <i>amara</i> D.C.	'elk mesmās عَلْكَ مَسْمَاسٌ	GU	cultivated	aphrodisiac
D 356	<i>Prunus armeniaca</i> L.	l-werd الْوَرْدُ	FL	cultivated	laxative, against headache, hair-care, cosmetic
D 359	<i>Rosa damascena</i> Mill. <i>R. centifolia</i> L.				
	<u>RUBIACEAE</u>				
D 360	<i>Rubia tinctorum</i> L. <i>R. peregrina</i> L.	fīwa, tarūya فَيْوَا تَرْوِيْيَا	RO	spontaneous	aphrodisiac, antidiarrheal, for liver pain, antianemic, analptic
	<u>RUTACEAE</u>				
	<i>Citrus limonum</i> Risso. var. <i>pusilla</i>	lim-deqq لِيمَ دَقْقٌ	FR	cultivated	cosmetic, against facial pigmentation marks

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 626	<i>Ruta montana</i> L., <i>R. chalepensis</i> L.	fitjel, awermi, rrūta	AP فرجلي رودة	spontaneous	abortive, antirheumatisal, magic, for intestinal and hepatic diseases, male sterility, vitiligo
	<u>SALICACEAE</u>				
D 354	<i>Populus nigra</i> L., <i>P. alba</i> L.	wrāq sefāf	IE وڑاق صوفاف	spontaneous and cultivated	stomach and bowels diseases, against aerophagia
	<u>SANTALACEAE</u>				
D 117	<i>Santalum album</i> L.	sendal	WO صنصل	imported	magic
	<u>SAPOTACEAE</u>				
	<i>Argania spinosa</i> (L.) Skeels	zekmīna, tāzgummūt	OC ذکمنة ذاجن موت	endemic	uterus diseases
D 674		zīt argān	OI زيت ارغان	endemic	cosmetic, stimulant
	<u>SCROPHULARIACEAE</u>				
D 375	<i>Verbascum sinuatum</i> L.	muslah andār	RO مشلح أنفاسار	spontaneous	antirheumatismal, for ophthalmic infections
	<u>SOLANACEAE</u>				
D 443	<i>Atriplex belladonna</i> L., <i>A. baetica</i> Willk.	zbiib leydūr	FR زبيبة ليظور	spontaneous	aphrodisiac, to be well being, memory stimulant
D 368	<i>Capsicum annuum</i> L.	felfla hanra, felfla methina, swāniya	FR فلفلة حنرة فلفلة ميثينا سوانية	cultivated	stimulant, aperitive
D 309	<i>Capsicum frutescens</i> L.	sundāniya, felfla maraksiya	FR سنديانة فلفلة مراكشية	cultivated	stimulant, revulsive, against stomach pains, antihelmintic
D 417	<i>Datura stramonium</i> L.	ssdeq j-jimel	SE سدق جJimel	spontaneous	narcotic, toxic
D 323	<i>Datura innoxia</i> Mill. <i>D. arborea</i> L.	gaytā	FL غياتا	cultivated	toxic, antiasthmatic
D 679	<i>Hoscyamus albus</i> L. <i>H. niger</i> L.	sikrān	SE سيكران	spontaneous	narcotic, toxic, magic, antihemorrhoidal, dental analgesic

TABLE 2 (Continued)

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 190	<i>Lycium intricatum</i> Boiss. <i>Mandragora autumnalis</i> Bertol.	عُودُ الْعَرَقَةِ بَيْنَ الْمَعْوَلِ بَيْنَ النَّسَرَاتِ بَيْنَ الْجَنِّ	W.O. bayd 1-qatq limūn n-nasārā, qurās l-jeem	spontaneous FR	women sterility, against itch narcotic
D 364	<i>Solanum sodomeum</i> L.			spontaneous FR	antiepileptic, foaming
D 610	<u>STYRACACEAE</u> <i>Styrax benzoin</i> Dryand.	خَارِجٌ	GU	imported	magic, ripening of abces
D 365	<u>TAMARICACEAE</u> <i>Tamarix articulata</i> Vahl. Symb.	تَكَوَّشٌ	GA	spontaneous	hair-care
D 304	<u>THYMELAEACEAE</u> <i>Aquilaria agallocha</i> Roxb.	عُودُ الْقَمَارِ	WO	imported	magic, cardiac stimulant
D 321	<i>Daphne gnidium</i> L.	لَزَّازٌ	LE	spontaneous	hair-care, abortive, dyeing of hair
D 322	<i>Daphne laureola</i> L.	وَلِدَلَّازٌ	LE	spontaneous	drastic
D 377	<i>Thymelea hirsuta</i> (L.) Endl.	قَبَيْتَسٌ	AP	spontaneous	laxative, toxic
D 442	<u>URTICACEAE</u> <i>Parietaria mauritanica</i> D.R.	الْحُرْقَى الْمَكْسَنَةِ	AP	spontaneous	diuretic
	<i>Urtica pilulifera</i> L.	رَبِيعَاتُ الْحُرْقَى	SE	spontaneous	antitussive, all itching
	<u>USNEAE</u> <i>Evernia prunastri</i> Ach. <i>E. furfuracea</i> Mann.	لَاهِيَاتُ الشَّنْبِيجُونِ بَيْنَهُنَّ الْعَجَبُونِ	AP	spontaneous	cosmetic, liver complaints, making reed blood corpuse
D 611	<u>VERBENACEAE</u> <i>Lippia cilioloides</i> H.B.K.	أَلْوَيْنَرٌ	LE	cultivated	nervous diseases, against cold, depurative
D 376	<i>Verbena officinalis</i> L.	بَمْبُورٌ	AP	spontaneous	for skin diseases, tuberculosis skin abces, wound healing

COLL N°	BOTANICAL NAME OF SPECIES	VERNACULAR NAME IN MOROCCO	PART OF PLANT	GEOPGRAPHICAL AND ECOLOGICAL DISTRIBUTION	MEDICINAL USE IN MOROCCO
D 371	<i>Vitis agnus-castus</i> L.	kerwa', angarf	SE	spontaneous	caleafcient
D 121	<i>Aframomum granum-paradisi</i> (L.) K. Schum.	guza sahariyya	SE	imported	stimulant, aphrodisiac
D 301	<i>Alpinia officinarum</i> Hance	kudemâjâl, kolenjân	RH	imported	antitussive, stimulant
D 614	<i>Curcuma longa</i> L.	kerqûm	RH	imported	digestive stimulant, for blood diseases, against amnesia
D 431	<i>Elettaria cardamomum</i> (Roxb.) Maton	qa'qolla	FR	imported	aphrodisiac, caleafcient
D 369	<i>Zingiber officinale</i> Rose	skenjbîr, skenjabîl	RH	imported	caleafcient, antirheumatismal, antitussive, stomachic
D 155	<i>Peganum harmala</i> L.	harmel	SE	spontaneous	magic, toxic, hair-care, anthelmintic, antirheumatismal, nervous diseases, antalgic, antidiarrheal, bowel diseases
D 672	<i>Zygophyllum gaetulum</i> Emb. Maire, <i>Z. Waterloti</i> Maire	aggâya	LE	endemic in Sahara	antispasmodic, antieczema, hypoglycemicant, stomach and liver pain.

TABLE 3
MAIN THERAPEUTIC INDICATIONS OF THE MEDICINALS PLANTS

Main therapeutic indications	Number of citations	Percentage
For digestive pathology (anthelmintics included)	62	11
Skin diseases, cosmetics	54	9.5
Stimulant (cerebral, cardiac, memory), strengthener, aperitive, antianorexigenous	40	7
Calefacient, against cold	33	5.8
Emmenagogue, uterine and gynecologic disorders, obstetric, sterility, abortives	33	5.8
Hair-care (antiparasitic included)	30	5.3
Analgesics, sedatives, antirheumatismal, antiinflammatory	30	5.3
Bronchopulmonary system, asthma	28	4.9
Urinary system disorders, diuretics	27	4.7
Hepatic disorders	27	4.7
Laxatives	23	4
Aphrodisiac	19	3.3
Vascular system, hemorrhoids, blood rate, circulation, hypertensive, hypotensive	15	2.6
Toxic	14	2.4
Hypoglycemiants	13	2.3
Mouth and dental hygiene	11	1.9
Emetics, antidotes, antivenomous	11	1.9
Narcotic	9	1.6
Antipyretics	9	1.6
Central nervous system, psychiatry	7	1.2
Otorhinolaryngology and ophthalmic diseases	7	1.2
Depuratives	5	0.9
Antiinfectious, general antiseptics	5	0.9
Galactagogues	2	0.3
Magic	33	5.8
Panacea, health plants	5	0.9
Diverse	14	2.4

567 Indications

major diseases cured by Moroccan traditional medicine relate to digestive pathology (mainly intestinal antiseptic and anthelmintic, 62 plants), skin (54 plants) and hair-care (30 plants), bronchopulmonary (28 plants), urinary system (27 plants) and liver (27 plants) disorders. Moreover, stimulants or strengtheners (40 plants) and calefacient (against cold excess) (33 plants) represent typical popular healing according to the simplified humoral theories. Bleeding specific to females

and their reproductive functions requires particular treatments like emmenagogue and other gynecologic cures and represents a large part of health activity of females or midwives (26 plants). The purge is fundamental to health promoting behavior and explains the use of laxatives (23 plants) and depuratives (5 plants). Plants with analgesic and anti-inflammatory indications are also well represented with 30 species.

The important diseases (infectious, viral,

tumoral, cardiovascular, nervous, endocrinial) and ear and eye infections are matter for modern health care which is actually well represented in towns and main villages, as described in a previous paper (Bellakhdar, 1985).

The richness of the Moroccan pharmacopoeia in stimulants and aphrodisiacs, probably linked to particular sociocultural attitudes, should be pointed out. Therapeutic indications of medicinal plants give a clear picture of the pathology treated by the traditional Moroccan pharmacopoeia.

Similar data and conclusions were drawn about the use of traditional medicines in Yemen (Fleurentin and Pelt, 1982, 1983; Fleurentin et al., 1986) and Afghanistan (Younos et al., 1987).

References

- Bellakhdar, J. (1978) *Médecine traditionnelle et toxicologie Ouest Sahariennes*. Ed. Techniques Nord Africaines, Rabat, p. 366.
- Bellakhdar, J., Miki, W. and Honda, G. (1982) Drugs and herbalists in the Maghreb. *Studia Culturae Islamicae* 19, 336.
- Bellakhdar, J. (1985) Propositions pour l'avancement des études sur la médecine traditionnelle et la pharmacopée au Maghreb. *Actes du 1er Colloque International sur les Plantes Medicinales du Maroc*, 15–17 Mai 1984, Rabat, pp. 285–294.
- Bellakhdar, J. (1986) Propositions de questionnaires-fiches pour enquêtes ethnomedicales au Maghreb. *Al Biruniya Revue Marocaine de Pharmacognosie*. 2, 45–65.
- Bellakhdar, J., Baayaoui, A., Kazdari, A. and Marechal, J. (1987) Herboristes et médecine traditionnelle à Tissint, oasis presaharien du Sud Marocain. *Al Biruniya Revue Marocaine de Pharmacognosie*. 1, 7–49.
- Boulos, L. (1983) *Medicinal Plants of North Africa*. Reference Publications Inc., MI, p. 286.
- Bulit, D. (1922) Notes sur la thérapeutique indigène dans le Sud Marocain. *Hesperis*, 3ème tri, p. 322–336.
- Charnot, A. (1945) La toxicologie au Maroc. Rabat. *Paris. Mémoire Société Sciences Naturelles du Maroc*, V, XLVII.
- Claisse, R. (1985) Drogues de la pharmacopée traditionnelle dans la région de Rabat-Salé. I) Bryophytes, Conifères et Monocotylédones. *Plantes médicinales et phytothérapie* 19, 216–223.
- Emberger, L. and Maire R. (1941) *Catalogue des plantes du Maroc*, Vol. IV, Alger, p. 300.
- Fleurentin, J. and Pelt, J.M. (1982) Medicinal plants of the Yemen Arab Republic. *Journal of Ethnopharmacology* 6, 85–108.
- Fleurentin, J. and Pelt, J.M. (1983) Additional information for a repertory of drugs and medicinal plants of Yemen. *Journal of Ethnopharmacology* 8, 237–243.
- Fleurentin, J., Myntti, C. and Pelt, J.M. (1986) Traditional medicine and traditional healers in North Yemen. *Curare* 5, 133–144.
- Gatefossé, J. (1921) Les plantes dans la thérapeutique indigène au Maroc. In rapport E. Perrot, *Sur les Productions végétales du Maroc*, pp. 73–123. Notice No. 10, Office National des Matières Premières Végétales, Larose, Paris.
- Jahandiez, E. and Maire, R. (1931–1934) *Catalogue des Plantes du Maroc*, 3 Vol. Alger, pp. 913.
- Maire, R. (1952–1980) *Flore de l'Afrique du Nord*, 16 Vol. Ed. Lechevallier, Paris.
- Negre, R. (1962) *Petite flore des Régions arides du Maroc occidental*. CNRS, Paris.
- Nauroy, J. (1954) *Contribution à l'Etude de la Pharmacopée marocaine traditionnelle*. Jouve, Paris.
- Ozenda, P. (1977) *Flore du Sahara*. CNRS, Paris, p. 622.
- Renaud, H.P.S. and Colin, G.S. (1934) *Tuhfat el ahbab, Glossaire de Matière médicale marocaine*. Geuthner, Paris.
- Salah, A., Honda G. and Miki, W. (1979). Herbs, drugs and herbalists in the Middle East. *Studia culturae islamicae (Tokyo)* 8.
- Venzlaff, H. (1977) *Der Marokkanische Drogenhändler und Seine Ware*. Franz Steiner Verlag GMBH, Wiesbaden, p. 242.
- Younos, C., Fleurentin, J., Notter, D., Mazars, G., Mortier, F. and Pelt, J.M. (1987) Repertory of drugs and medicinal plants used in traditional medicine of Afghanistan. *Journal of Ethnopharmacology* 20, 245–290.