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MEDICINAL PLANTS OF LEBANON

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Before considering the medicinal plants of Lebanon, it is worth noting the names of the four floras written for this area: *Flora of Syria, Palestine and Sinae*, by George E. Post, 1884, 1896, A.U.B., revised in two vols. by John Dinsmore, 1931 – 1932, Beirut. *Flore du Liban et de la Syrie*, by L. Bouloumoy, two vols. 1930, Vigot, Paris; *Flore Libano-Syrienne*, by J. Thiebaut, three vols., 1936, Cairo; and *Nouvelle flore du Liban et de la Syrie*, by P. Mouterde, three vols., each in two parts: text and sketches, 1966 – 1983, Dar-el-Machreq, Beyrouth. All agree on the richness of this small area in the represented numbers of families, genera and species, on the variety of climatic zones, types of soil and different elevations. Nehmé (1), p. 13, states in his *Dictionnaire* that Lebanon's flora counts 2607 species distributed over 783 genera. Of these species 78 are endemic, others *grow equally* in other countries of the Middle East and the Mediterranean basin. To show the significance of these figures, Nehmé (2), in his *Fleurs Sauvages du Liban*, p. ix, compares them with the following number of species growing in the U.K., France and Switzerland whose geographic areas are respectively 22, 53 and 4 times greater than Lebanon, namely 2113, 4220 and 3000 species, correspondingly. The significance of this is that it is possible to grow in Lebanon many foreign medicinally active plants, if desired, after determining for each plant its growth requirements as to soil, temperature, elevation and light intensity. An examination of the plants growing on the A.U.B. campus (3) will reveal this microcosm which is Lebanon.

Until early last century information on medicines was to be sought in books of *Materia Medica* taught in schools of medicine and pharmacy. Drugs were mainly of plant origin, synthetics then were few. This name originated with Dioscorides, a Greek physician of the first century A. D., when the name of his 5 volume book on drugs was latinized to *De Materia Medica* and was taught for 1500 years (4, p. 1; 5, p. 409). In it he described some 600 plants in addition to animal and mineral drugs. The books by Dioscorides (5) and Ibn al-Baitar, 13th century (6), are two great herbals. The latter wrote about 1800 plants (7). Singer (8) defined a herbal as "a collection of either the names and descriptions or the drawings of plants, to each of which is added an account of its supposed medical powers". Brown's *Herbal* (9) *and Swerdlow's Nature's Medicine* (10), are two beautifully illustrated and artistically produced recent up to date examples. "*Pharmacognosy*" now replaces the name *Materia Medica*. It covers information on established plant drugs giving their botany, chemistry and medical use (11), others (4) include drugs from animal and microbial origin also. "Pharmacology" is the study of the action of drugs.

A pharmacopoea is an official book of standards for medically approved drugs of both synthetic or natural origin. A monograph is set up for each drug describing it and setting for it standards of strength and degree of purity, and the means for determining them, together with identification tests. Thus one speaks of official vs. folk, traditional or herbal medicine. Herbal medicine is popular in many countries in Europe such as Germany, Switzerland, France, England, etc. There exist Herbalists who specialize in dispensing it. In a brochure by *WHO* (12) emphasis is laid on the importance of encouraging the use of folk medicine, testing its toxicity and developing proper means of collection, drying and conservation of the plants so as to control their quality, in the interest of public health. The Commission of the European Communities (13) published a list of "Herbal Drugs Used in the European Community". It lists the names of 759 species. Of these only 46 are official in the European Pharmacopoea. A few years back, Philips (14)

Silybum marianum, Nehmé, *Wild Flowers of Lebanon*, n° 186.

wrote an ethnobotanical study of "*Lebanese Folk Cures*" for her doctoral thesis at Columbia University. As a result of interviews with people here and among emigrants in the U.S.A. she listed the names of 805 plant species.
In Germany, German Commission E, has been investigating scientifically a large number of traditional drugs. "*Phytomedicines of Europe*" (15) has the results of some of these successful investigations. This indicates the importance of research in the field of traditional herbal medicine.

Chemical analysis of any one plant reveals a very large number of compounds (16). Some of these are concerned with growth, the others are secondary products of metabolism. It is in the latter group that one seeks physiologically-active constituents. For example, morphine is one of many pharmacologically-active constituents of poppy capsule, and the alkaloids hyoscyamine and scopolamine are found in the leaves and seeds of many species of *Datura* and *Hyoscyamus* rendering them toxic though useful medically. However, poppy seeds are free of morphine, in fact, they are edible. Volatile oils are usually very complex in composition (17). The oil of *Salvia fruticosa* is rich in cineole (17) which makes it desirable in colds and cough medications, while the European

oil of sage from *Salvia officinales* is rich in the toxic thujone (18) which gives it convalsant and emmenagogue properties. A plant may have constituents of opposite pharmacological action: the rhizome in *Rheum*, is laxative because of its anthraquinone glycosides, later the tannins in it produce a temporary opposite effect.

Modern methods of analysis now make it possible to isolate the constituents of complex mixtures of natural compounds (19), and testing each constituent separately pharmacologically (15). Certain types of plant constituents run in families: alkaloids, which are usually toxic, are found in members of the Papaveraceae (*Papaver*, the poppy), Solanaceae (*Datura, Hyoscyamus, Solanum*) (20) Apocynaceae (*Vinca*), etc. *Nerium*, however, which belongs to the Apocynaceae contains toxic cardiac glycosides (20). Other families are known for their volatile oil content: the mint family, the Lamiaceae or Labiatae (*Mentha, Salvia*), the Rutaceae (*Citrus, Ruta*), the Umbelliferae (*Petroselinum*), etc. (4, 11).

A medicinal plant or parts of it, per se, or in the form of infusion, extract, tincture, cream, inhalation or active ingredient, may have several uses. I quote here from Wren (21) on FOENUGREEK (fenugreek) seed of *Trigonella-foenum graecum*. "Medicinal Use: Demulcent, nutritive, digestive, antipyretic and expectorant. Saponin-rich extracts of Foenugreek are antidiabetic in animal models... and reduce blood levels of cholesterol... Aqueous and alcoholic extracts... (are) oxytocic in animals. The aqueous extract promotes healing of gastric ulcers produced experimentally in rats... a mild smooth muscle relaxant effect in rabbits... Trigonelline has been shown to significantly inhibit liver carcinoma in mice, and is used in China to treat carcinoma of the cervix as pessary, is a source for sapogenins... (and) an ingredient of curry powders..." (this is *helbeh* in Arabic).

Herbal medicines are not necessarily safe, e.g. the following are toxic: *Bongardia, Datura, Elaeagnus leaf, Hyoscyamus, Leontice*, and *Polygonum* (22). I believe that there is no plant without some physiological effect, including some food plants such as *Corchorus olitorius* (*mouloukhieh* in Arabic) which has a cardioactive glucoside that seems to affect the foetus in expectant mothers who should avoid eating it. In his book "Toxic Plants" (20), Bruneton brings attention to the development of the alkaloid solanine (Solanaceae!) in the sprouting tubers of potato and consequently the necessity of storing potatoes in the dark, and "when making French fries it is best to drop the potatoes in the frying oil as soon as they are cut (or to freeze them)".

When herbs are used as teas attention should be paid to the temperature of the water and the duration of the infusion or decoction. Some plant constituents are volatile, others may not be extracted below or above a certain temperature, or may even be decomposed. A recent book by Antol (23) may be of help!

The plants I selected in groups below according to use, have come in their majority from the personal experience of people and friends who came to me for their identification, told me about their experience with them or asked for information about them, during the many years I taught pharmacognosy; others have come from recent research. You may have other personal favorites that you have used or known of many others. They are limitless. A special section of Complementary Notes follows the Groups.

An excellent highly scientific book, authored by Wichtl, translated, added to and edited by Bisset: "*Herbal Drugs and Phytopharmaceuticals*" (24), is not only richly illustrated in colour but also provides means of identification of the individual drug and full information on it. Two encyclopaedic works covering a large number of herbs and published recently in their second editions, are those by Hocking (25): "*Dictionary of Natural Products*", and "*PDR for Herbal Medicines*" (26).

List of Selected Lebanese Medicinal Plants Arranged in Groups According to Use

Synonyms are indented

I Abdominal Disorder

Allium sativum L.	Bulb	Garlic
Matricaria recutita L.	Flower Head	Chamomile
Salvia fruticosa Mill.	Leaf	Three-lobed Sage
Salvia triloba L.f.		
Salvia sclarea L.	Herb	Clary Sage
Teucrium flavum L.	Herb	Germander
Teucrium creticum L.	Herb	Germander
Teucrium polium L.	Herb	Germander
Teucrium scordium L.	Herb	Germander
Teucrium yebrudi Post	Herb	Germander

II Aleppo Sore

Berberis libanotica Ehrenb.	Root & Stem	Barberry

III Anti-asthmatic

Allium cepa L.	Bulb & Leaf	Onion
Citrus aurantium L.	Peel	Bitter Orange
Citrus nobilis L.	Peel	Tangerine
Datura innoxia Mill.	Leaf & Seed	Hairy Thorn Apple
Datura metel L.		
Datura stramonim L.	Leaf & Seed	Stramonium
Ephedra campylopoda C.A.Mey	Stem	Ephedra
Ephedra fragilis Sieb.	Stem	Ephedra
Glycyrrhiza glabra L.	Root	Liquorice
Ilyoscyamus aureus L.	Flowering Herb	Henbane

IV Anti-depressant

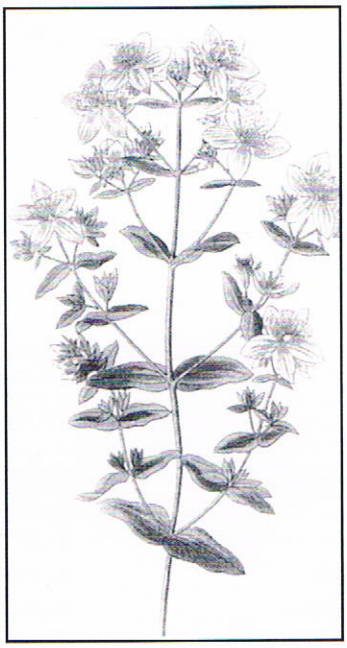
Hypericum perforatum L.	Flowering Herb	St. John's Wort

V. Anti-diabetic

Achillea fragrantissima Schulz-Bip.	Herb	Yarrow
Allium cepa L.	Bulb	Onion
Apium graveolens L.	Leaf	Celery
Artemisia herba-alba Asso	Herb	Herba-alba
Cirsium acarna (L.) Moench	Herb	Yellow Cnicus
Helichrysum sicculum (Spreng.) Bois	Herb	Everlasting
Lupinus termis L.	Seed	Lupine
Morus alba L.	Leaf	Mulberry
Neurada procumbens L.	Herb	Neurada
Olea europaea L.	Leaf	Olive
Phaseolus vulgaris	Leaf	Bean
Ptilostemon chamaepeuce (L.) Less.	Leaf	Ptilostemon
Chamaepeuce mutica (Cass.) DC. & *var. Polycephala* (DC.) *Halacsy*		
Rubus rubustus P. J. Muell.	Herb	Bramble
Rubus sanctus Schreb.	Leaf	Blackberry
Rubus ulmifolius Schott	Leaf	Blackberry

Hyoscyamus aureus, Nehmé, *Wild Flowers of Lebanon*, n° 159.

Datura stramoniium, Flück, *Plantes médicinales*, p. 113.



Hypericum perforatum, Flück, *Plantes médicinales*, p. 60.

Salix alba L.	Leaf	Willow
Salix fragilis L.	Leaf	Willow
Salix pedicillata Desf.	Leaf	Willow
Salvia fruticosa Mill. *Salvia triloba* L.f.	Leaf	Three-lobed sage
Sarcopoterium spinosum (L.) Spach *Poterium spinosum* L.	Root	Burnet
Scolymus maculatus L.	Leaf	Spotted Garden Thistle
Trigonella foenum-graecum L.	Seed	Fenugreek
Ziziphus jujuba Mill.	Fruit,Leaf	Jujube

VI. Anti-diarrhoea

Ceratonia siliqua L.	Pulp	Carob
Myrtus communis L.	Leaf	Myrtle
Punica granatum L.	Bark	Pomegranate
Rhus coriaria L.	Bark, Berries	Sumach
Rubus sanctus L.	Leaf	Blackberry

VII. Anti-epileptic

Bongardia chrysogonum (L.) Boiss	Underground Part	Bongardia
Leontice leontopetalum	Underground Part	Lion's Leaf

VIII. Anti-helminthic : Anthelmintic

Cucurbita maxima Duch.	Seed	Pumpkin
Cucurbita pepo L.	Seed	Pumpkin

IX. Anti-inflammatory

Berberis libanotica Ehrenb.	Root, Stem	Barberry
Eryngium creticum Lam.	Herb	Eryngo
Hypericum perforatum L.	Flowering Herb	St.John's Wort
Matricaria recutita L.	Flower	Chamomile
Ruta graveolens L.	Herb	Rue

X. Anti-leukaemic

Cedrus libani A.Rich.	Plant Parts	Lebanon Cedar
Pinus halepensis Mill.	Plant Parts	Aleppo Pine

XI. Anti-microbial

Allium sativum L.	Bulbil	Garlic
Ceterach officinarum Lam.	Leaf	Rustyback Fern
Ocimum basilicum L.	Herb	Sweet Basil

XII. Anti-rheumatic

Salix alba L.	Bark	Willow
Salix fragilis L.	Bark	Willow
Tanacetum parthenium Schultz-Bip.	Herb, Leaf	Feverfew

XIII. Anti-viral

Arctium lappa L.	Herb	Great Burdock

Hypericum perforatum L.	Flowering Herb	St. John's Wort
Ipomoea cairica (L.) Sweet *Ipomoea palmata* Forsk.	Plant	Jagged-lf. Morning glory
Melissa officinalis L.	Herb	Common Balm

XIV. Back Pain

Capparis spinosa L.	Root Bark	Caper

XV. Bitter Tonic

Centaurium erythraea Rafin *Erythraea centaurium* Pers.	Herb	Centaury
Cnicus benedictus L.		Blessed Thistle

XVI. Cardiac Drugs

Adonis aestivalis L.	Herb	Adonis
Crataegus monogyna Jacq.	Flower, Leaf	Hawthorn
Digitalis ferruginea L.	Leaf	Iron Foxglove
Drimia maritima (L.) Stearn *Urginea maritime* (L.) Baker	Bulb	Squill
Nrium oleander L.	Leaf	Oleander

XVII. Carminative : Contain Volatile Oil

Acacia farnesiana (L.) Willd.	Flower	Cassie
Achillea fragrantissima Schultz-Bip	Herb	Yarrow
Citrus aurantium L.	Flower, Leaf, Rind	Bitter Orange
Citrus sinensis (L.) Osbeck	Flower, Leaf, Rind	Sweet Orange
Coridothymus capitatus (L.) *Reichb*.f.	Leaf	Capitate Thyme
Elaeagnus angustifolia L.	Flower	Oleaster
Laurus nobilis L.	Fruit, Leaf	Sweet Laurel
Lavandula stoechas L.	Flower	Lavender
Matricaria recutita L.	Flower	Chamomile
Melissa officinalis L.	Leaf	Common Balm
Mentha longifolia (L.) Huds.	Leaf	Mint
Micromeria juliana L.	Herb	Micromeria
Micromeria libanotica Boiss.	Herb	Micromeria
Ocimum basilicum L.	Herb	Sweet Basil
Origanum barbarae Bornm.	Herb	Origanum
Origanum ehrenbergii Boiss.	Herb	Origanum
Origanum libanoticum Boiss.	Herb	Origanum
Origanum syriacum L.	Herb	Zaatar
Petroselinum crispum (Mill.) Nym.	Herb	Parsley
Rosmarinus officinalis L.	Herb	Rosemary
Ruta graveolens L.	Herb	Rue
Salvia fruticosa Mill. *Salvia triloba* L.f.	Leaf	Three-lobed Sage
Sideritis pullulans Vent.	Herb	Ironwort
Spartium junceum L.	Flower	Spanish Broom
Verbena officinalis L.	Herb	Vervein

XVIII Contraceptive (for male)

Ecbalium elaterium (L.) A.Rich.	Fruit, Herb	Squirting Cucumber

XIX. Cough, Expectorant (see next group)

Ferula tingitana L.	Fruit, Leaf	Giant Fennel
Spergularia marginata Kittel	Root	Syrian Senega

XX. Demulcent

Althaea rosea (L.) Cav. *Alcea rosea* L.	Flower	Hollyhock
Linum usitatissmum L.	Seed	Linseed
Malva nicaeensis All.	Leaf	Mallow
Malva parviflora L.	Leaf	Mallow
Malva sylvestris L.	Leaf	Mallow
Trigonella foenum-graecum L.	Seed	Fenugreek

XXI. Diuretics and Litholytics

Ammi visnaga (L.) Lam.	Fruit	Khellah
Cynara scolymus L.	Leaf	Artichoke
Eryngium creticum Lam.	Root	Eryngo
Eryngium maritimum L.	Root	Eryngo
Fibigia clypeata (L.) Medikus	Leaf	Fibigia
Parietaria officinalis L.	Herb	Pellitory
Paronychia argentea Lam.	Herb	Silvery Whitlow
Petroselinum crispum (Mill.) Nym.	Leaf, Fruit, Root	Parsley
Polygonum aviculare L.	Herb	Knotgrass
Prunus avium L.	Pedicel	Cherry
Prunus cerasus L.	Pedicel	Cherry
Ruscus aculeatus L.	Root	Butcher's Broom
Sarcopoterium spinosum (L.) Spach *Poterium spinosum* L.	Root	Burnet
Teucrium polium L.	Herb	Germander
Zea mays L.	Style	Maise

XXII. Edema in Leg

Parietaria judaica L.	Herb	Pellitory

XXIII. Emmenagogue

Elaeagnus angustifolia L.	Leaf	Oleaster
Peganum harmala L.	Herb	Peganum
Ruta graveolens L.	Herb	Rue

XXIV. Gum

Astragalus gummifer Labill.	Gum	Tragacanth
Ceratonia siliqua L.	Seed	Carob

XXV. Healing Warts and Wounds

Ceterach officinarum Lam.	Leaf	Rustyback Fern
Hypericum perforatum L.	Flowering Herb	St. John's Wort
Inula viscosa L.	Herb	Viscous Inula
Parietaria judaica L.	Herb	Pellitory
Parietaria officinalis L.	Herb	Pellitory

XXVI. Hemorrhoids

Silene venosa (Gilib.) Asch.	Herb	Bladder Campion
Silene inflata Sm.		

XXVII. Hepatocarcinogen (estragol in oil)

Ocimum basilicum L.	Herb	Sweet Basil

XXVIII. Hypocholesterolemic

Allium sativum L.	Bulbil	Garlic
Cynara scolymus L.	Leaf	Artichoke
Plantago lanceolata L.	Leaf	Ribgrass
Trigonella foenum graecum L.	Seed	Fenugreek

XXIX. Hypotensive and Antihypertensive

Allium sativum L.	Bulbil	Garlic
Ammi visnaga (L.) Lam.	Herb	Khellah
Crataegus oxyacantha L.	Leaf	Hawthorn
Cupressus sempervirens L.	Bark	Cypress
Olea europaea L.	Leaf	Olive
Sideritis pullulans Vent.	Herb	Ironwort
Vinca herbacea Waldst.et Kit.	Herb	Periwinkle
Vinca libanotica Zucc	Herb	Lebanese Periwinkle
Viscum album L.	Plant	Mistletoe
Vitis vinifera L.	Bark	Grapevine

XXX. Immunostimulator (adjunct to Cancer)

Viscum album L.	Plant	Mistletoe

XXXI. Impotence

Ferula hermonis Boiss.	Root	Giant Fennel

XXXII. Inhibit Tumour Formation

Ruta graveolens L.	Herb	Rue

XXXIII. Jaundice

Ecbalium elaterium (L.) A. Rich.	Fresh Fruit Juice	Squirting Cucumber

XXXIV. Laxative – Purgative

Alhagi maurorum Medikus		
Rhamnus alaternus L.	Bark	Buckthorn
Rheum ribes L.	Root	Rhubarb
Ricinus communis L.	Oil	Castor Bean

XXXV. Leucoderma

Ammi majus L.	Fruit, Herb	Bishop's Weed

XXXVI. Liver-carcinoma Inhibitor

Trigonella foenum-graecum L.	Seed	Fenugreek

XXXVII. Liver Protective

Cynara scolymus L.	Leaf	Artichoke
Fibigia clypeata (L.) Medikus	Herb	Fibigia
Fibigia eriocarpa (DC.) Boiss.	Herb	Fibigia
Hypericum perforatum L.	Herb	St. John's Wort
Plantago cretica L.	Leaf	Plantain
Salvia fruticosa Mill. *Salvia triloba* L.f.	Leaf	Three-lobed Sage
Sarcopoterium spinosum (L.) Spach *Poterium spinosum* L.	Root	Burnet
Silybum marianum (L.) Gaertn.	Akene	Milk Thistle

XXXVIII. Nephritis and Albuminurea

Cirsium acarna (L.) Moench.	Leaf, Root	Yellow Cnicus

XXXIX. Migraine

Tanacetum parthenium (L.) *(Schultz*-Bip.)	Leaf	Feverfew

XL. Parasiticide

Delphinium staphisagria L.	Seed	Stavesacre

XLI. Prolactin Inhibitor

Vitex agnus-castus L.	Fruit	Chasteberry

XLII. Prostatropic Activity

Cucurbita pepo L.	Seed Extract	Pumpkin

XLIII. Sedative-Soporific

Datura innoxia Mill. *Datura metel* L.	Leaf, Seed	Hairy Thornapple
Erica manipuliflora Salisb. *Erica verticillata* Forsk.	Flower	Heath
Hyoscyamus aureus L.	Leaf	Henbane

XLIV. Teas

Elaegnus angustifolia L.	Flower	Oleaster
Matricaria recutita L.	Flower	Chamomile
Micromeria juliana L.	Herb	Micromeria
Micromeria libanotica L.	Herb	Micromeria

Complementary Notes

Allium cepa Onion
Antiasthmatic and reduces the inflammation after a sting by bee or wasp (15, pp. 47-49), in detail (28).

Allium sativum Garlic
Antibiotic, antithrombotic, antiplatlet aggregation, antihyperlipidemic, reduces serum cholesterol, hypoglycaemic and antioxidant (29, pp. 132-137), in detail (30, 31).

Crataegus monogyna Hawthorn
Used in chronic heart failure and in early stages of congestive heart failure (29, pp. 129-131), in detail (32, 33).

Cucurbita pepo Pumpkin
Benign prostate hyperplasia was found to benefit from crude seed extracts of this pumpkin, confirming popular belief (34). Cucurbitin is believed to act against *Taenia saginata* if followed by a saline purge (35, 36). It is found only in the seed, in the free state and only in the genus *Cucurbita*. Seeds of various origins differ in the cucurbitin content.

Hypericum perforatum St. John's Wort
Hans Reuter (48) considers St. John's Wort "one of the most important psychotropic drugs. It is widely used in Germany and central Europe for the treatment of psychovegetative disturbances, light depressive states, anxiety and/or nervous restlessness". In their excellent condensed book: "Tyler's Herbs of Choice" (29, p. 168), the authors bring attention to a feature of antidepressant drugs "including St. John's Wort, when they are used in therapy, is a lag phase of up to eight weeks before the full effect becomes manifest".
St. John's Wort has other uses: see under groups IX, XIII, XXV, XXXVII. "PDR For Herbal Medicine" (26) gives it an exhaustive coverage. Nehme' (1) records 14 other species of *Hypericum* in his "Dictionary".

Ipomoea cairica Jagged-leaf Morning Glory
(-) – Arctigenin from the plant is a lignan which proved to be active in inhibiting replication of HIV in different human cell systems. It has also been found in *Arctium lappa* (37, p. 84).

Matricaria recutita Chamomile
Chamomile in Germany was declared the medicinal plant of the year for 1987 (29, p. 69). It is very useful in digestive disturbances, is antispasmodic, has anti-inflammatory activity, may be used by inhalation in bronchial irritation and can be used in creams or lotions for skin irritations (29, pp. 69-71), and (21, pp. 70-71, ed. 1988).

Melissa officinalis Common Balm
A cream made of it was found to have a viral activity against herpes simplex (37, p. 83). Melissa is carminative, sedative, spasmolytic, antibacterial and useful for cold sores (29, p. 228).

Rhamnus alaternus Common Balm
The bark of this native tree was shown by analysis (38, 39, 40) to be a possible substitute for the European buckthorn bark, *Rhamnus frangula*, a laxative, official in the European Pharmacopoea.

Silybum marianum Milky Thistle
The fruits (akenes) were found to contain silymarin, a mixture of flavonolignans of which silibinin and silichristin are active constituents which exert a protective effect on the liver and kidney cells from toxins of mushrooms like *Amanita*, and are useful in hepatitis and liver cirrhosis (29, pp. 76-79), in detail (41).

Tanacetum parthenium Feverfew
Its leaves reduce the severity and frequency of migraine and reduce fever. Parthenolide was isolated from the plant (29, p. 173), in detail (42).

Vinca libanotica Lebanese Periwinkle
Several indole alkaloids have been isolated from this herb one of which is believed to be hypotensive (19, 43). *Vinca herbacea*, another periwinkle, also grows in Lebanon. See same references.

Viscum album Mistletoe

The mistletoe has been used in hypertension. An aqueous extract of the plant showed anti-neoplastic effects and cytotoxic and immunomodulatory properties (29, p. 247), in detail (44).

Vitex agnus-castus Chasteberry

The aromatic fruit of the chaste tree, as it is also called, effects a reduction in prolactin release, making it useful in certain gynecological cases (29, p. 191), in detail (45).

Vitis vinifera Grape Vine

Grape seed extract is an antioxidant and it is also useful in certain circulatory disorders (29, p. 250), (15, p. 54).

Plants Against Cancer

Just as many plants have been claimed to be antidiabetic (Group V), a larger number of plants have been claimed since antiquity to have antineoplastic effect. These have been compiled by the late Dr. Jonathan Hartwell (47), director, NIH, Cancer Research Center, U.S.A. in a 710 – page book.

Volatile Oils

Depending on their chemical constituents, volatile oils may have antiseptic, anti-inflammatory, antibiotic, and other biological effects besides being carminatives. Some are used as flavours, perfumes or insect repellants. Some of these oils provide an export item for Lebanon such as the oils of *Salvia fruticosa* (17, 18) and of *Origanum* and *Coridothymus* (46). For other oils see under Carminatives, Group XVII.

Salvia triloba Nehmé (2), plate, 154.

Vinca libanotica Nehmé (2), plate, 142.

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Ziziphus jujuba	V

Notes

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