

**ALMUSTAQBAL UNIVERSITY COLLAGE PHARMACY DEPARTMANT**

**Practical pharmacognosy / Second year**

# INTRODUCTION

Of all forms of life, plants are the most vital to all others. The connection we have with plants is critical and life giving. In addition to providing the oxygen we breathe, plants often have complex molecular structures that are able to heal our bodies. Every ancient culture known to man has had some form of medicinal relationship with plants. The World Health Organization (WHO) states that the practice of herbal medicine should be safe and efficacious. . It is estimated that 70-80% of people worldwide rely on traditional herbal medicine to meet their primary health care needs.

Pharmacognosy is the study of medicines derived from natural sources. The word" pharmacognosy "is derived from the Greek words pharmakon(drug), and gnosis(knowledge). The term " pharmacognosy "was used for the first time by the Austrian physician Schmidt in 1811.

According to the American society of pharmacognosy, **pharmacognosy** "is the study of natural product molecules (typically secondary metabolites) that are useful for their medicinal, ecological, or other functional properties".Although most pharmacognosy studies focus on plants and medicines derived from plants, other types of organisms are also regarded as pharmacognosy interesting, in particular, various types of microbes(bacteria, fungi,…etc.),and recently various marine organisms.

Plant preparations are said to be medicinal or herbal when they are used to promote health beyond basic nutrition.

The study of drugs from plants includes the subjects of botany, chemistry and pharmacology.

Botany includes the identification (taxonomy), genetics and cultivation of plants.

Chemistry includes the isolation, identification and quantification of constituents in plant materials.

Pharmacology is the study of the biological effects that the chemicals in medicinal plants have on cell cultures, animals and humans.

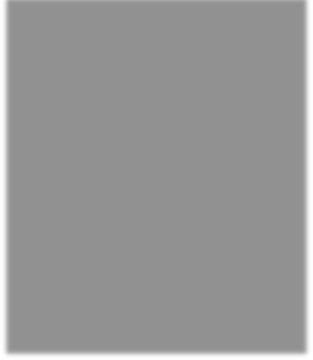
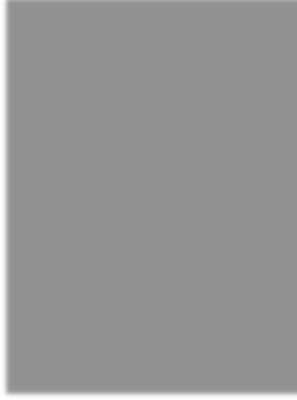
Classification of vegetable drugs for study:

* Alphabetical: using either Latin or English names.
* Taxonomic: Families, Genera, and Species.
* Morphological: either organized drugs (leaves, flowers and seeds) or unorganized (extracts, gums, oils….etc.).
* Pharmacological or therapeutic use.
* Chemical e.g. alkaloids, glycosides, V.O.…etc.

The most important points you have to recognize for plant drugs:

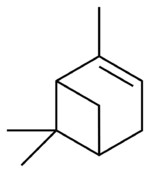
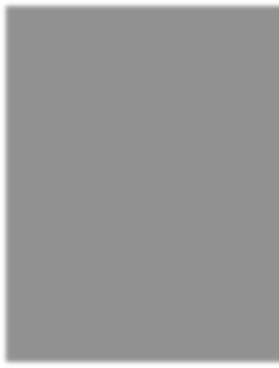
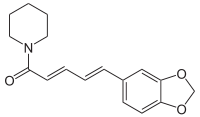
* The Botanical name.
* Family name.
* Local name.
* Part used.
* Active compounds.
* Basic structure.
* Dosage form.
* Therapeutic use.

***Cinchona***



* + Botanical name: Cinchona succirubra
  + Family name: Rubiaceae
  + Local name: :i: '
  + Part used: bark
  + Active compound: Alkaloid quinine
  + Basic structure:
  + Dosage form: Tablets
  + Therapeutic use: Malaria

# Black pepper

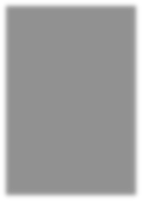


* + Botanical name: Piper nigrum Linne
  + Family name:Piperaceae
  + Local name: p~ ' t '
  + Active compound: Piperine alkaloid and

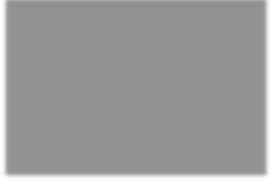
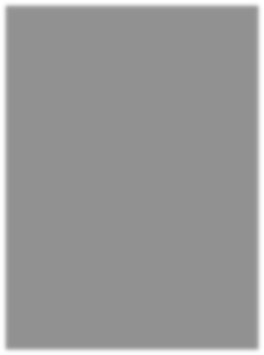
terpenes volatile oil.

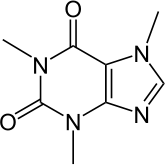
* + Basic structure:
  + Dosage form: powder,ointment.
  + Therapeutic use:Stimulant,febrifuge.

##### Pinene

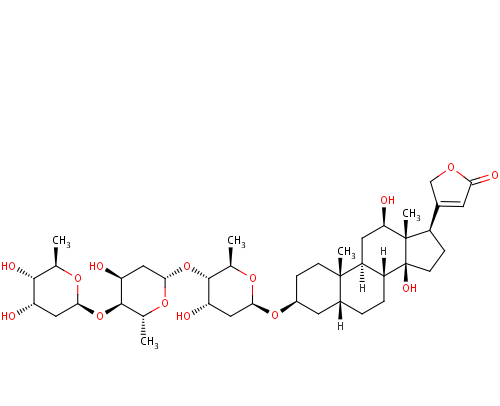
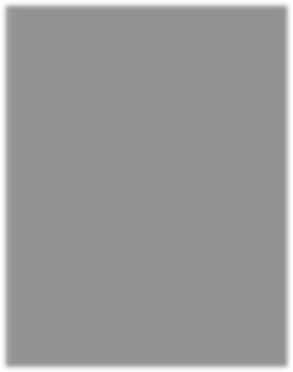


Coffee



* Botanical name: Coffea arabica
* Family name: Rubiacae
* Local name: p '
* Part used: Coffee seeds
* Active compound: caffeine
* Basic structure:
* Therapeutic use: Central stimulant

Digitalis

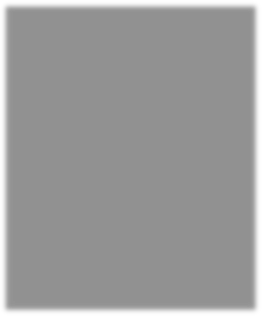


* Botanical name: Digitalis lanata
* Family name: Scrophulariaceae
* Local name: ¹ ' 3œ
* Part used: Dried leaves
* Active compound: Cardiotonic glycoside
* Basic structure: Digoxine
* Therapeutic use:

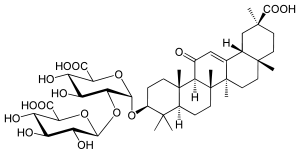
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* Cardiotonic glycoside
* (increase the tone of heart muscle).

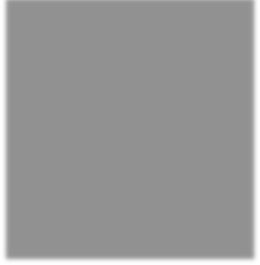
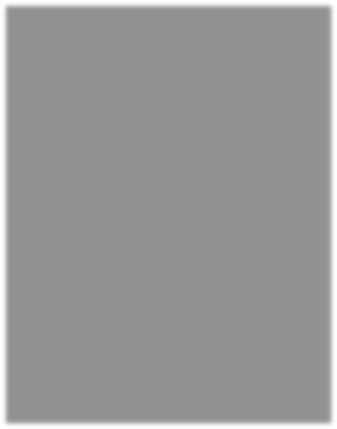
Glycyrrhiza

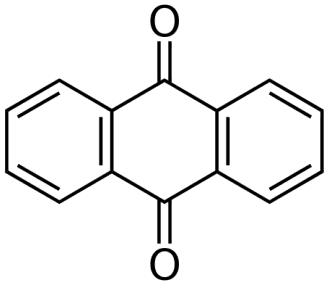


Botanical name: Glycyrrhiza glabra

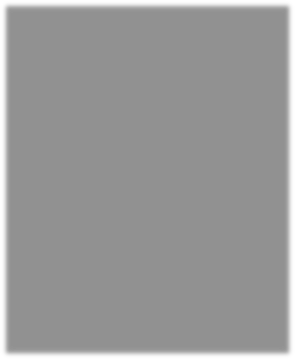
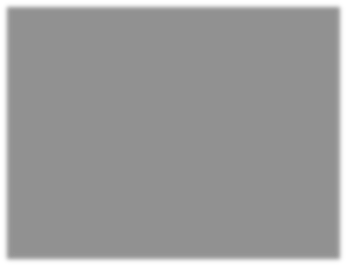
* + Family name: Leguminosae
  + Local name: p~ '
  + Part used: Root
  + Active compound: Saponin glycoside (glycyrrhizin).
  + Basic structure:
  + Therapeutic use: Demulcent, expectorant, laxative.

# Senna

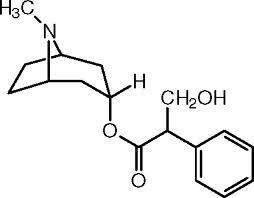


* + - Botanical name: Cassia acutifolia
    - Family name: Leguminosae
    - Local name: ¹:~ '
    - Part used: leaves and pods.
    - Active compound: Anthraquinone glycoside
    - Basic structure:
    - Therapeutic use: cathartic or laxative

# Belladonna

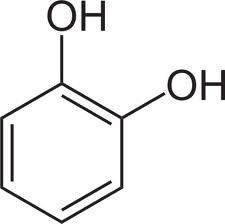
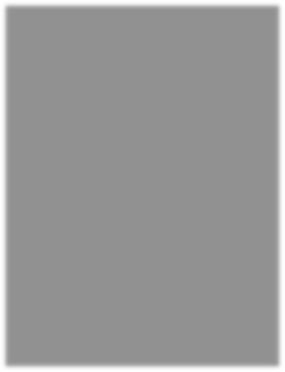


* Botanical name: Atropa belladonna
* Family name: Solanaceae
* Local name: ~ ' ÷~
* Part used: Leaves
* Active compound: Hyoscymine, hyosine, atropine.



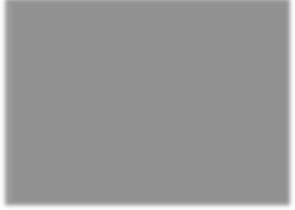
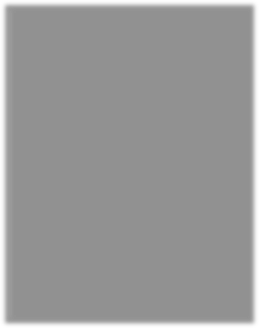
* Basic structure:
* Dosage form: tablet, drops, inj.
* Therapeutic use: antispasmodic, mydriatic.

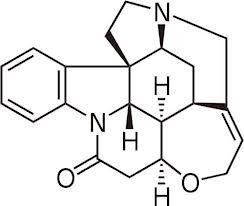
Hamamelis(Wilch hazel)



* Botanical name:Hamamelis virginiana
* Family name: Hamamelidaceae
* Local name: 3 ¹~ ' ¹
* Part used: leaves
* Active compound: Tannins
* Basic structure: catechol
* Dosage form: decoctionor infusion.
* Therapeutic use: astringent homeostatic.

## Nux vomica



* + Botanical name: Strychnos nux vomica
  + Family name: Loganiaceae
  + Part used: dried ripe seed
  + Active compound: alkaloid (Strychnine and brucine)
  + Basic structure:
  + Therapeutic use: central stimulant.