Medicinal Roots

1. Ipecac

**Arabic name**

جذور عرق الذهب

**Medicinal Parts:**
The medicinal parts are the pulverized roots of the 3-to-4-year-old plant, which have been dug up and dried quickly in the sun.

**English name**

Ipecacuanha roots

**Latin name**

Cephaelis ipecacuanha

**Family name**

Rubiaceae

**Constituents**

- Isoquinoline alkaloids of the emetine type (2-4%): chief alkaloids emetine and cephaelin
- Starch (30 to 40%)

**Action and Uses**

**EFFECTS**

Emetine hydrochloride and cephaelin hydrochloride, alkaloids contained in the drug, have a locally irritating effect on the gastric mucous membrane and are thus responsible for the reflex increase of bronchial secretions and the expectorant
effect.
The saponins probably support this effect.
The drug affects the sensory stomach nerves; it is secretory in small doses and emetic in larger doses. It is also spasmolytic and expectorant. It is partially effective in amoebic dysentery due to the action of the alkaloid emetin on the magna-form of the pathogen.

**INDICATIONS AND USAGE**

1. Expectorant
2. Emetic in acute poisoning
3. Spasmolytic
4. Amoebic dysentry
2. Licorice Roots

**Arabic name**

جذور عرق السوس

Medicinal Parts: The medicinal parts are the unpeeled, dried roots and the runners, the peeled dried roots, and the rhizome with the roots.

**English name**

Licorice Roots

**Latin name**

- Glycyrrhiza glabra
- Glycyrrhiza typica
- Glycyrrhiza glabulifera

**Family name**

Lequminosae

**Constituents**

- Triterpene saponins (3-15%): chief components *glycyrrhetic acid* (sweet-tasting, aglycone 18beta-glycyrrhetic acid, salts termed *glycyrrhizin*), 18-alpha-glycerrhetic acid, glycyrrhetic acid methyl ester, glabric acid, glabrolide, uralenic acid
- Flavonoids: aglycones including liquiritigenin, isoliquiritinigenin (its chalcone), isolicoflavonol, isoliquiritin, licoricidin
- Isoflavonoids: aglycones formononetin, glabren, glabridin, glabrol, 3-hydroxyglabrol, glycyrrhisoflavone
- Cumestan derivatives: glycyrol, isoglycyrol, liquocoumarin
- Hydroxycoumarins: including herniarin, umbelliferone, glycycoumarin,
Licopyranocoumarin

- Steroids: sterols, including beta-sitosterol, stigmasterol
- Volatile oil (very little): with anethole, estragole, eugenol, hexanoic acid

**Action and Uses**

1. *Anti-Inflammatory/Anti-platelet Effects* (Licoricidin, Isoliquiritigenin)
2. *Antiulcer Effects* (glycyrrhetic acid, and its derivative)
3. *Antiviral/Antifungal Effects* (Glycyrrhizin)
4. *Mineralcorticoid Effects*
3. Rauwolfia roots

**Arabic name**

جذور الروالفيا

**English name**

Rauwolfia roots

**Latin name**

Rauwolfia serpentina

**Family name**

Apocynaceae

**Constituents**

- Alkaloids:
  - reserpine, rescinnamine, deserpidine and rauhimbine. Other alkaloids are reserpinine, ajmaline, isoajmaline, rauwolfinine, yohimbine
  - More than 50 kinds of alkaloids can be extracted from Rauwolfia serpentina roots.
  - Classification:
    1. Yohambine group: Yohambine and reserpine
    2. Heteroyohambine: Serpantine
    3. Sarpagine
    4. Ajmaline: ajmalinine, Ajmalicine

**Action and Uses**

**Actions**

1. Reduces cardiac output.
2. Relaxes capacitance vessels and reduces total peripheral resistance.
3. Cause sedative effect.

Uses :

1. acts on mild to moderate hypertension (Anti.
2. In case of insomnia is used with precaution.
3. It is used as a tranquilizer in psychiatric disorder.
4. has extensive use as an antidote for snakebites.
5. The root is believed to stimulate uterine contraction, recommended for use in child-birth.
6. It is used in treatment of intestinal disorders, particularly diarrhoea and dysentery, cholera, colic and fever. It is also an antihelmintic.
4. Marshmallow Roots

**Arabic name**  
جذور الخطمي

**English name**  
Marshmallow Roots

**Latin name**  
Althaea officinalis

**Family name**  
Malvaceae

**Constituents**
- Mucilages: mixture of colloidal polysaccharides, particularly galacturonic rhamnans, arabinogalactans, arabans and glucans
- Pectins
- Starch

**Action and Uses**  
**EFFECTS**
9. The drug alleviates local irritation
10. inhibits mucociliary activity
11. stimulates phagocytosis, and
12. functions as an anti-inflammatory and anticomplementary agent
13. immune stimulant and
14. hypoglycemic.

Efficacy has been demonstrated when used as a gargle for inflammation of the
mucous membrane of the mouth and throat.

INDICATIONS AND USAGE
1. Cough
2. bronchitis
5. Calumba Roots

Arabic name: جذور ساق الحمام
Medicinal Parts: The medicinal parts of the plant are the roots cut in slices when fresh and then dried.

English name: Calumba Roots, Colombo Roots

Latin name: Jateorhiza palmata

Family name: Menicpermaceae

Constituents:
- Isoquinoline alkaloids: main alkaloid palmatine, additionally jatrorrhizines (jateorhizine), columbamine, and bisjatrorrhizines
- Diterpene bitter principles: including palmarin, chasmanthin and their glucosides (palmatoside A and B), columbin, jateorin and their glucosides (palmatoside D and E)

Action and Uses: EFFECTS
- The alkaloids have a narcotic effect. They act similarly to morphine,
increasing resting muscle tone in the smooth muscle of the intestinal tract. Colombo alkaloids are said to act as a CNS paralyzing agent in frogs, and palmatin has the same effect on mammals. No further information is available.

**INDICATIONS AND USAGE**
In folk medicine it is used for digestive disorders accompanied by diarrhea, dyspeptic disorders, chronic diarrhea in patients with lung disease, subacidic gastritis and chronic entercolitis.
The drug is used in some European countries as an antidiarrheal agent because of its morphine-like side effects.
6. Jalap Roots

**Arabic name**  
جذور الجلاب

**English name**  
Jalap Roots

**Latin name**  
Ipomoea purga

**Family name**  
Convolvulaceae

**Constituents**

- **RESIN**
  
  Glycoretines:
  
  - convulvin (55%, non-ether-soluble)
  
  - jalapin (7%, ether-soluble)

  convulvin and jalapin are mixtures made up of resinous glycosides of hydroxy-fatty acids (C12 to C16) with oligosaccharides

- Polysaccharides: Starch

**Action and Uses**

**EFFECTS:**
The drug has a drastic laxative effect due to the glycoretines

INDICATIONS
In the past, it was used as a laxative and purgative.
Jalap tuber is to be used only under the supervision of an expert qualified in the appropriate use of this substance. The drug's laxative effect is frequently accompanied by nausea, cramp-like pains and gastroenteritis.

*(Jalap tuber is considered to be obsolete)*
7. Aconite Roots

**Arabic name**  
جذور خانق الننب  
Deadly poison : The plant is extremely poisonous.

**English name**  
Aconite Roots

**Latin name**  
Aconitum napellus

**Family name**  
Ranunculaceae

**Constituents**  
- Nor-diterpene alkaloids including:
  - Aconitine
  - Mesaconitine
  - Hypaconitine
  - N-desethyl aconitine
  - Oxoaconitine

**Action and Uses**  
**EFFECTS:**
- Aconitin raises membrane permeability for sodium ions and retards repolarization.
Aconitin is initially stimulating, and then causes paralysis in the motor and sensitive nerve ends, and in the CNS.

Aconitin applied in small doses triggers bradycardia and hypotension

In higher doses it has at first, a positive inotropic effect, followed by tachycardia, cardiac arrhythmia and cardiac arrest (1 mg causes death).

INDICATIONS AND USAGE

Unproven Uses:

- The drug is used:
  - To reduce pain from neuralgia
  - For rheumatism
  - Serous skin inflammation and
  - Migraine.
  - Fever