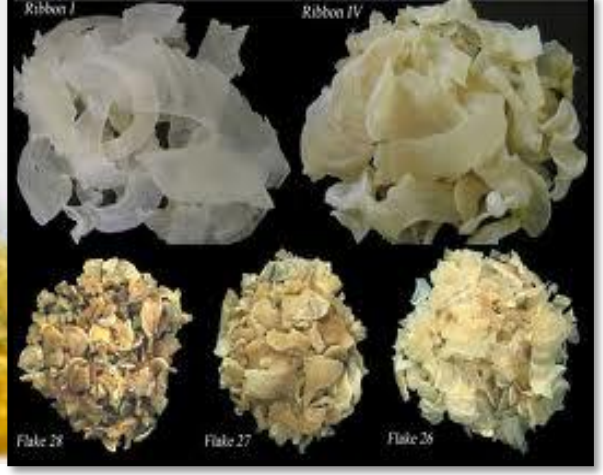



# Unorganized drugs

# Unorganized drugs

- Unorganized drugs are drugs that have no cellular or definite structure.
- They are mixture of chemical substances which are either produced by a plants or an animals.
- Produced either normally (e.g. mucilage) or pathologically as a result of injuries (e.g. gums).
- They can be identified by:
  - Various physical characters e.g. form, color, solubility, ...
  - Chemical tests

# Classification of unorganized drugs

They can be classified based on their origin and nature into:

- Gums
- Volatile oils
- Resins and resin combinations:
  - Gum-resins
  - Oleoresins
  - Oleo-gum-resins
- Latices
- Dried juices
- Extracts and others

# I) Gums: discussed before!

# II) Resins and resin combinations:

- The term resin is applied to more or less solid, amorphous products of complex chemical nature.

- On heating they soften and finally melt
- They are insoluble in water but dissolve in alcohol, chloroform and ether


- Chemically resins are:

  complex mixtures of resin acids, resin alcohols, resin phenols, esters and chemically inert compounds (Resenes).

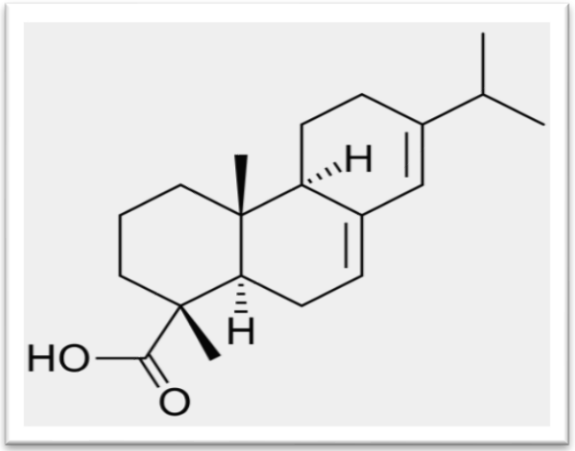
# II) Resins and resin combinations include:

## 1) Resins: e.g. Colophony

It is the residue left after distillation of turpentine oil from the crude oleoresin of various species of *Pinus* F. Pinaceae


## Constituents:

- Resin acids, about 90% of which is abietic acid
- Neutral inert substances




## Uses:

- In pharmaceuticals, it forms an ingredient in several ointments.
- As a glazing agent.
- It is an ingredient in printing inks, varnishes and soap.

# II) Resins and resin combinations: (cont.)

## 2) Oleoresins:

- Oleoresins are liquids or semi-solids
- They are obtained mostly by incision

e.g. Copaiba

**It is the oleoresin** obtained by incision from the **trunks of various species of *Copaifera*, F. Fabaceae.**

**Constituents:**

- **Sesquiterpene hydrocarbons**
- **Diterpenes**
- **Volatile oil**

## e.g. Copaiba (cont.)


Uses:

- **As urinary antiseptic**
- **In inflammations of the bladder**
- In sore throat

## 3) Oleo-gum-resin:

**Volatile oil + gums + resins → Oleo-gum-resins**

e.g. Myrrh المر

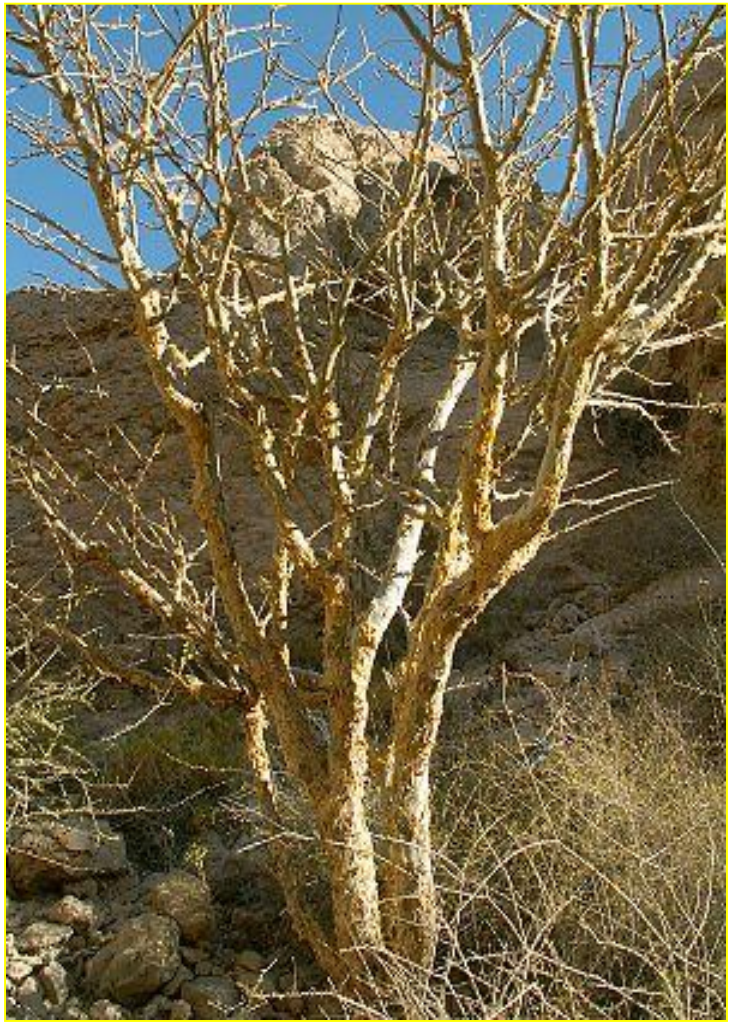
It is the oleo-gum-resin obtained from *Commiphora* sp. F. Burseraceae.

Grown in south-east Africa and Arabia

**Constituents:**

- **Volatile oil (7-17%)**
- **Gum (57-61%)**
- **Resin (25-40%)**
- **Impurities (3-4%)**

# The Myrrh tree



# Myrrh oleo-gum resin

**Myrrh gum tears**

**Myrrh gum**

## e.g. Myrrh (cont.)

## Uses:

- Applied directly to the mouth for soreness and swelling, inflamed gums (gingivitis), loose teeth, bad breath, and chapped lips.
- It is also used topically for hemorrhoids, bedsores, wounds, and boils.
- Some researches prove the positive gastric antiulcer and cytoprotective effect.
- Recently one of comiphora species *(Comiphora molmol)* is introduced to the Egyptian market under the name of Mirazid for treatment of **schistosoma and fasciola**

# Myrrh preparations used as perfumes, in bath collections and for minor burns


# Resina Podophylli


- **Names: Resina Podophylli; Podophyllum Resin.**
- **Botanical Origin**

**Podophyllum Resin is a mixture of resins prepared from the dried rhizomes and roots of *Podophyllum peltatum* L., known as American Podophyllum Resin, and of *Podophyllum emodi* Royle; known as Indian Podophyllum Resin (Fam. Berberidaceae).**

**Constituents:**

-**American podophyllum** contains podophyllotoxins (lignan) (20%), β-peltatin (10%) and α-peltatin (5%).

- -**Indian podophyllum** contains podophyllotoxins (up to 40%), no β-peltatin  nor α-peltatin.

Podophyllotoxin :

- It is a valuable natural product as precursor for several therapeutic agents, including the anticancer drugs such as
- **etoposide, teniposide and etoposide phosphate**

# Products of Podophyllum resin




**Podophyllum resin is a cytotoxic agent. It works by preventing growth of the wart tissue. Take care of toxicity, use under medical supervision.**

# III) Dried juices:

- Dried juices are plant saps
- They are usually aqueous liquids containing dissolved substances

e.g. Aloes الصبر

**The solid residue obtained by evaporating the liquid which drains from the transversely cut leaves of various species of *Aloe* F. Liliaceae.**

# *Aloe vera*

- **The *Aloe vera* plant has been known and used for centuries for its health, beauty, medicinal and skin care properties.**

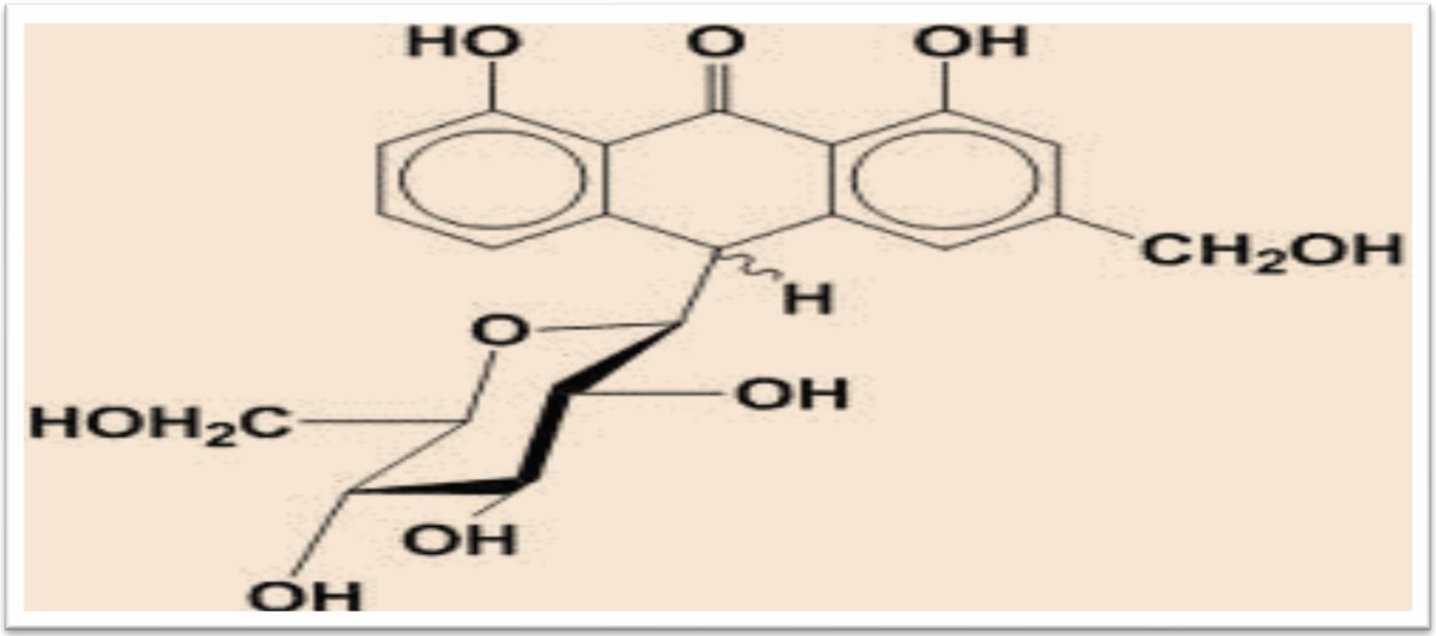
- **Alexander the Great, and Christopher Columbus used it to treat soldiers' wounds.**

# Different species of Aloe

e.g. Aloes (cont.)

Constituents:

- Contains anthraquinone glycosides (Barbaloin), free anthraquinones and resins.



# Uses and Actions

- **Aloes is employed as purgative due to anthraquinone glycosides.**

- **The topical effect of *Aloe vera* appears to be due to a combination of enhancement of wound healing e.g. minor burns and skin inflammation. The gel is also applicable as moisturizing, emollient and antimicrobial agent in several commercial products.**

- **Aloe has evidenced, recently, interesting effects in treatment of asthma, hair loss, and as a cancer chemo- preventive agent.**

# IV) Dried latices:

- They are emulsions or suspensions

e.g. **Opium** الأفيون

**It is the dried latex obtained by incision of the unripe capsules of *Papaver somniferum* F. Papaveraceae**


## Constituents:

- Contains more than 40 alkaloids **(morphine, ...)**

**usually combined with** → **meconic acid**

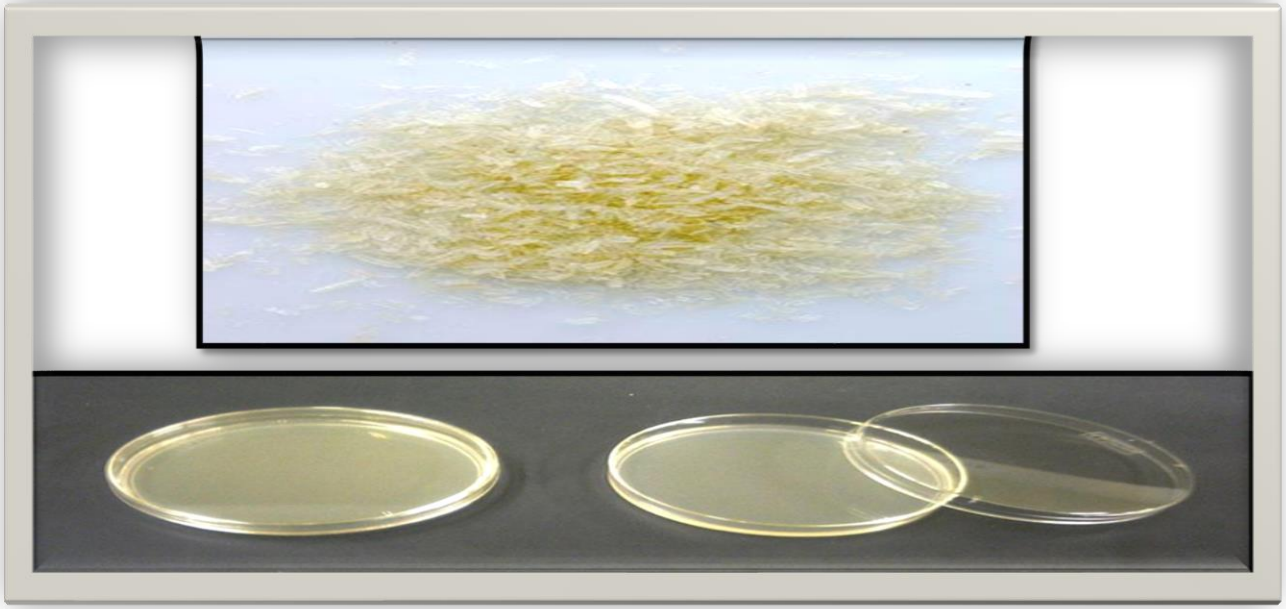
**or other acids e.g.** $H_2SO_4$ **or acetic acid**

# DRIED EXTRACTS

**This group includes drugs which are prepared by evaporating the aqueous decoction from parts of certain plants or animals. Examples of dried extracts are the following drugs:**

**1. Agar**

**2. Gelatin**



# Gelatin

- **Gelatin or gelatine (from Latin *gelatus* meaning "stiff", "frozen") is a translucent, colourless, brittle (when dry), flavourless foodstuff, derived from collagen obtained from various animal by-products.**
- **It is commonly used as a gelling agent in food, pharmaceuticals, photography, and cosmetic manufacturing.**

Household gelatin comes in the form of sheets, granules, or powder. Instant types can be added to the food as they are; others need to be soaked in water beforehand.