

Pharmacognosy

PHG112

Lab

6





Faculty of Pharmacy

HERBS

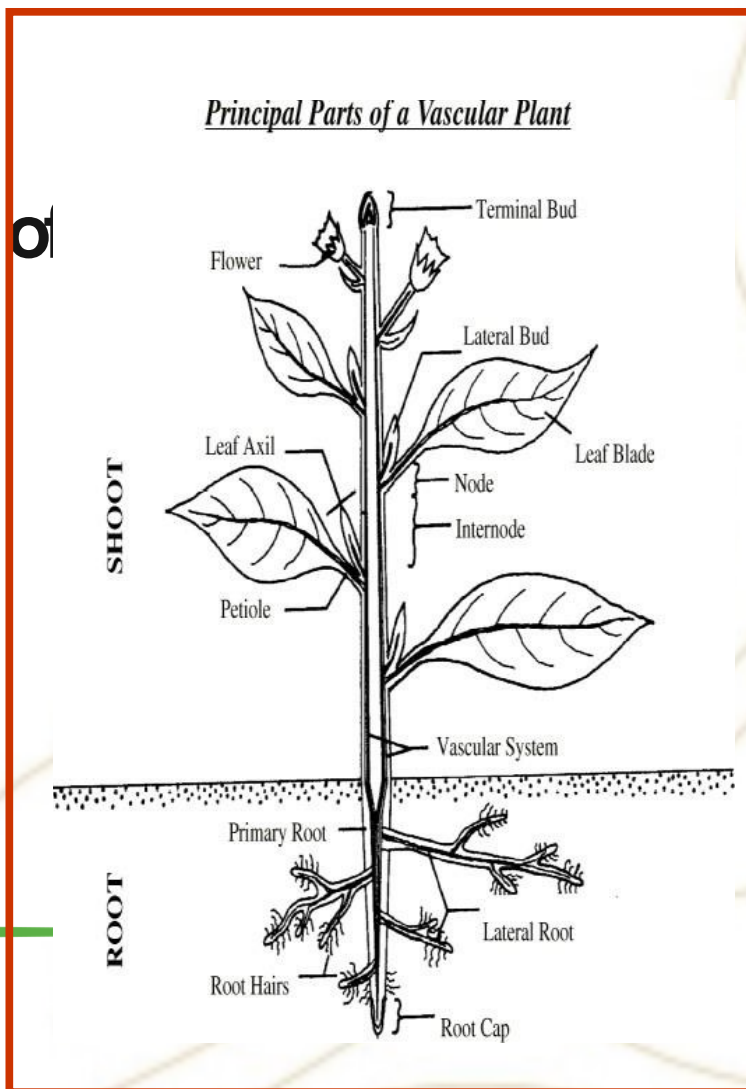


HERBS (Herba)

What is Herb?

In Pharmacognosy

Herb is a drug composed usually of the tender parts of
(the stem + leaves + flowers + fruits).



Peppermint

عشب النعناع الفلفلى



Origin:

Dried leaves and
flowering tops
of *Mentha piperita*, F.
Labiatae (Lamiaceae)



Morphology:

1- Stem

Quadrangular 1-3 mm thick

Green to dark purple tinge

Why???



Morphology:

2- Leaves

Ovate, lanceolate, petiolate, opposite decussate with dark green, nearly glabrous upper surface and light green hairy lower surface



Morphology:

3- Flowers

Small

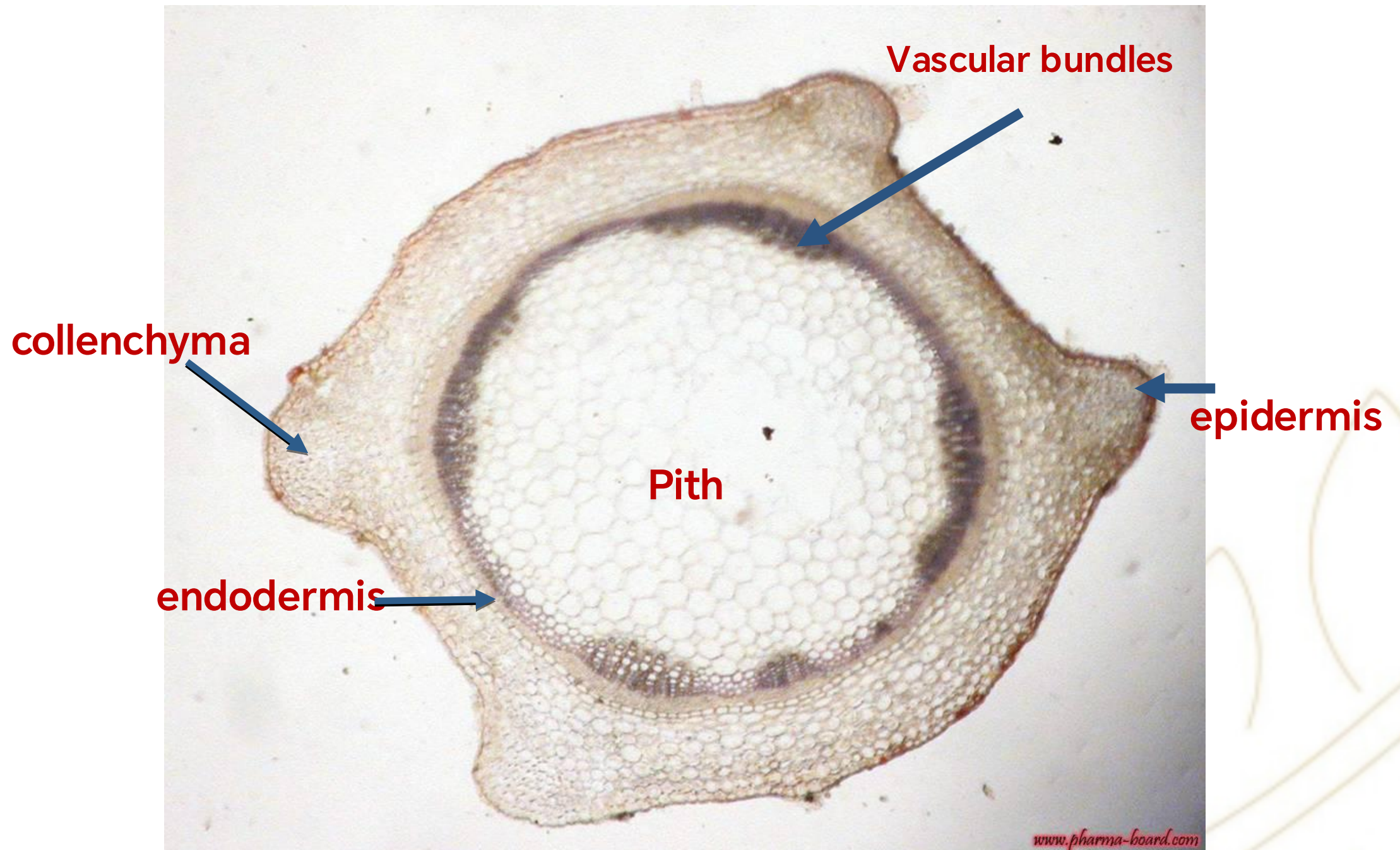
Purple

Zygomorphic

Bilabiate



T.S in stem:



Physical characters:

Condition: Fine powder.

Colour: Olive Green.

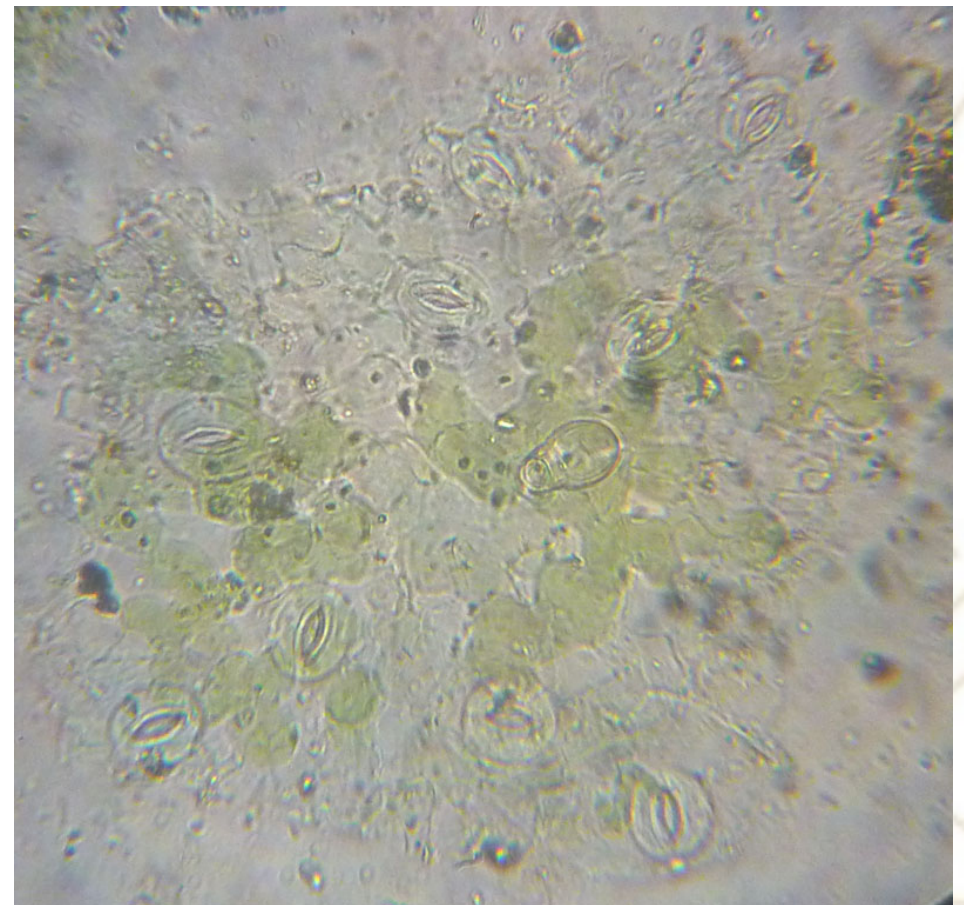
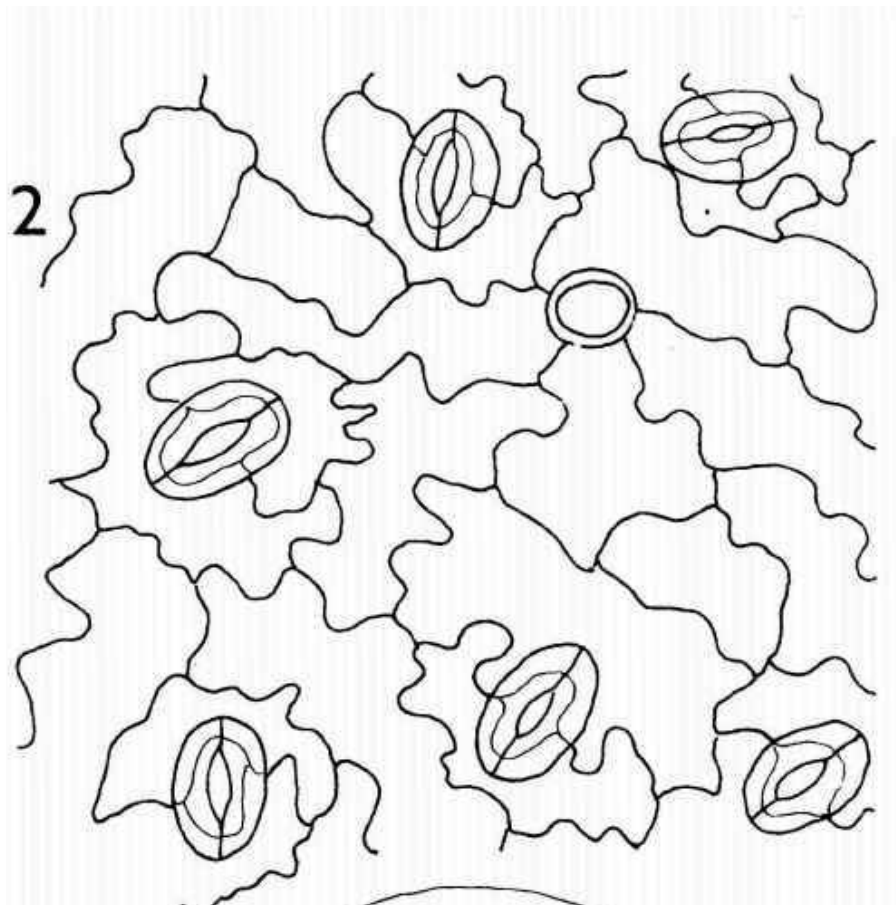
Odor: Aromatic.

Taste: Aromatic followed by cold sensation



Key Elements

1- Epidermal cell: Wavy wall, diacytic stomata

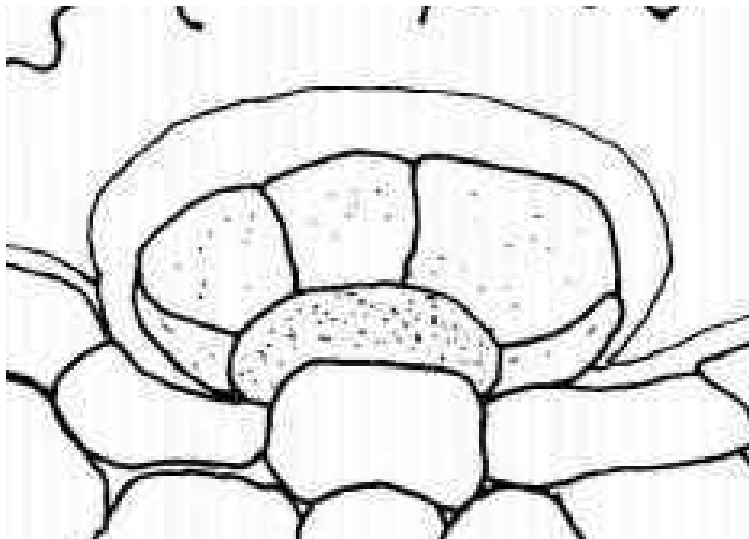
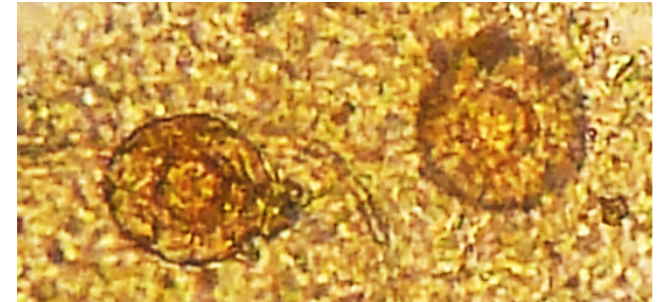


Key Elements

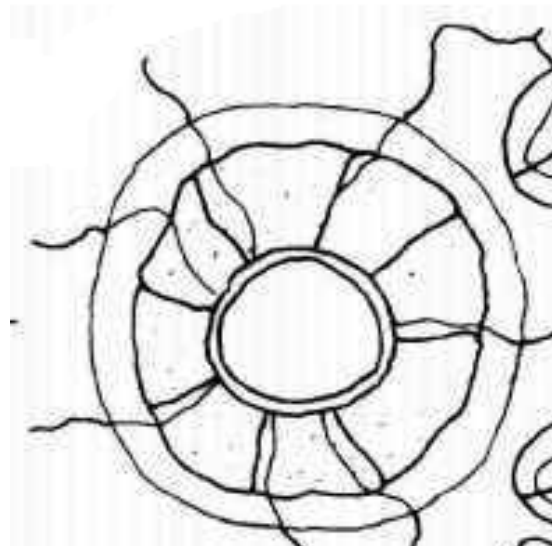
2- hairs:

a- Glandular Hairs:

Labiaceous glandular hair.



Side view

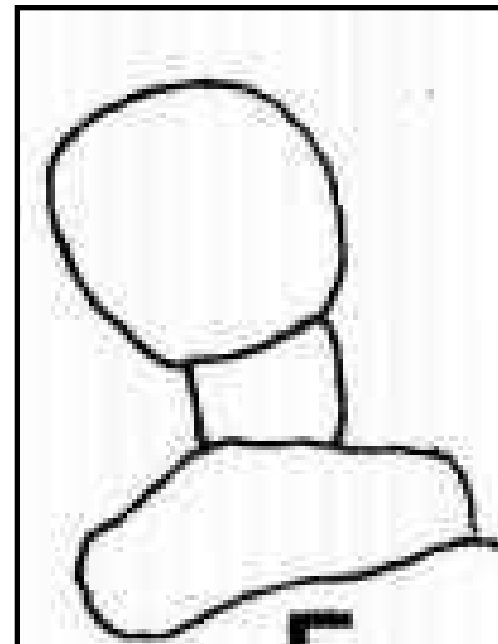


Top view

Key Elements

2-hairs:

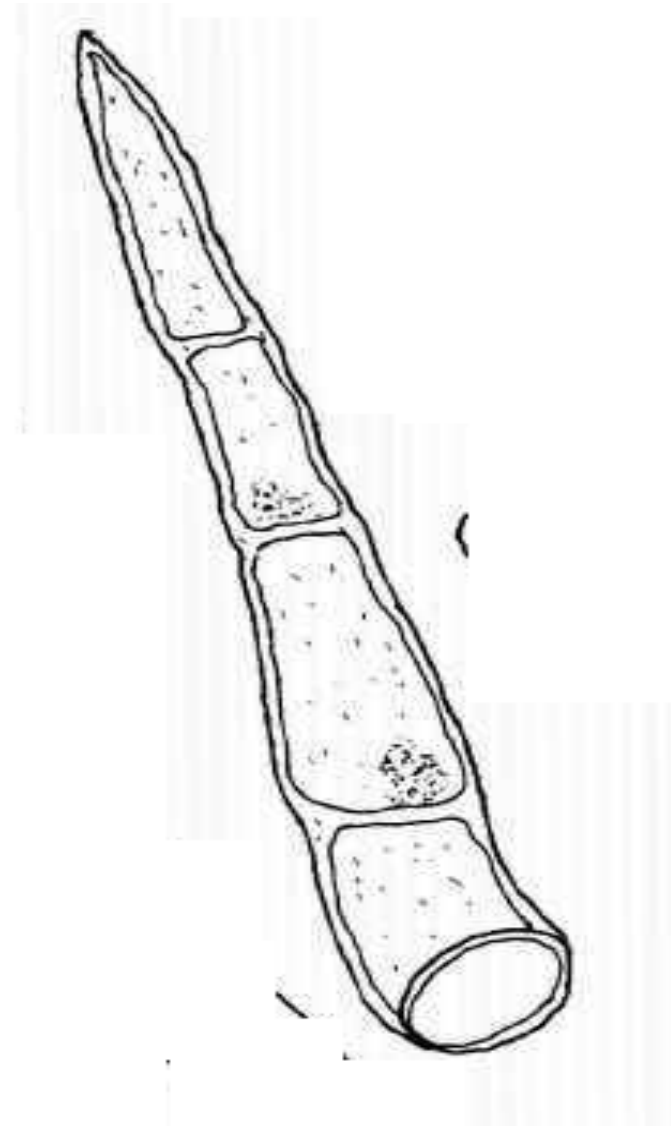
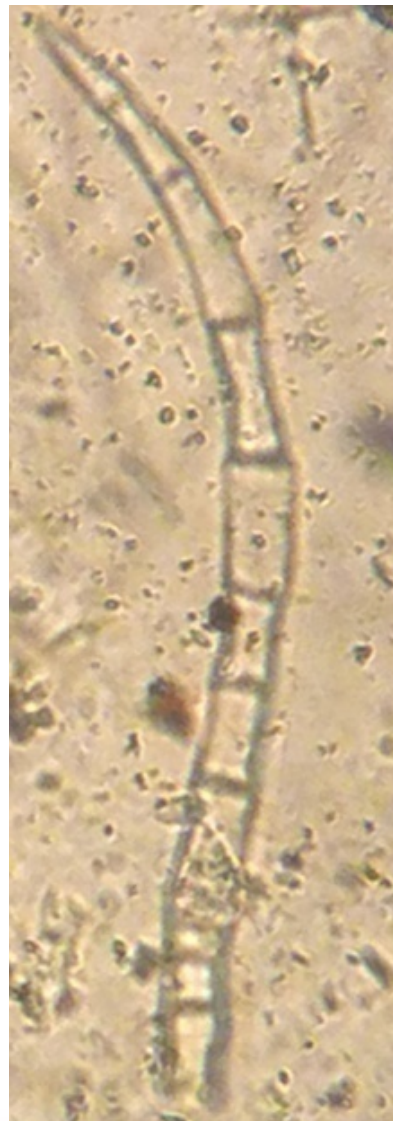
a-Glangular Hairs: Capitate hair



Key Elements

2-hairs:

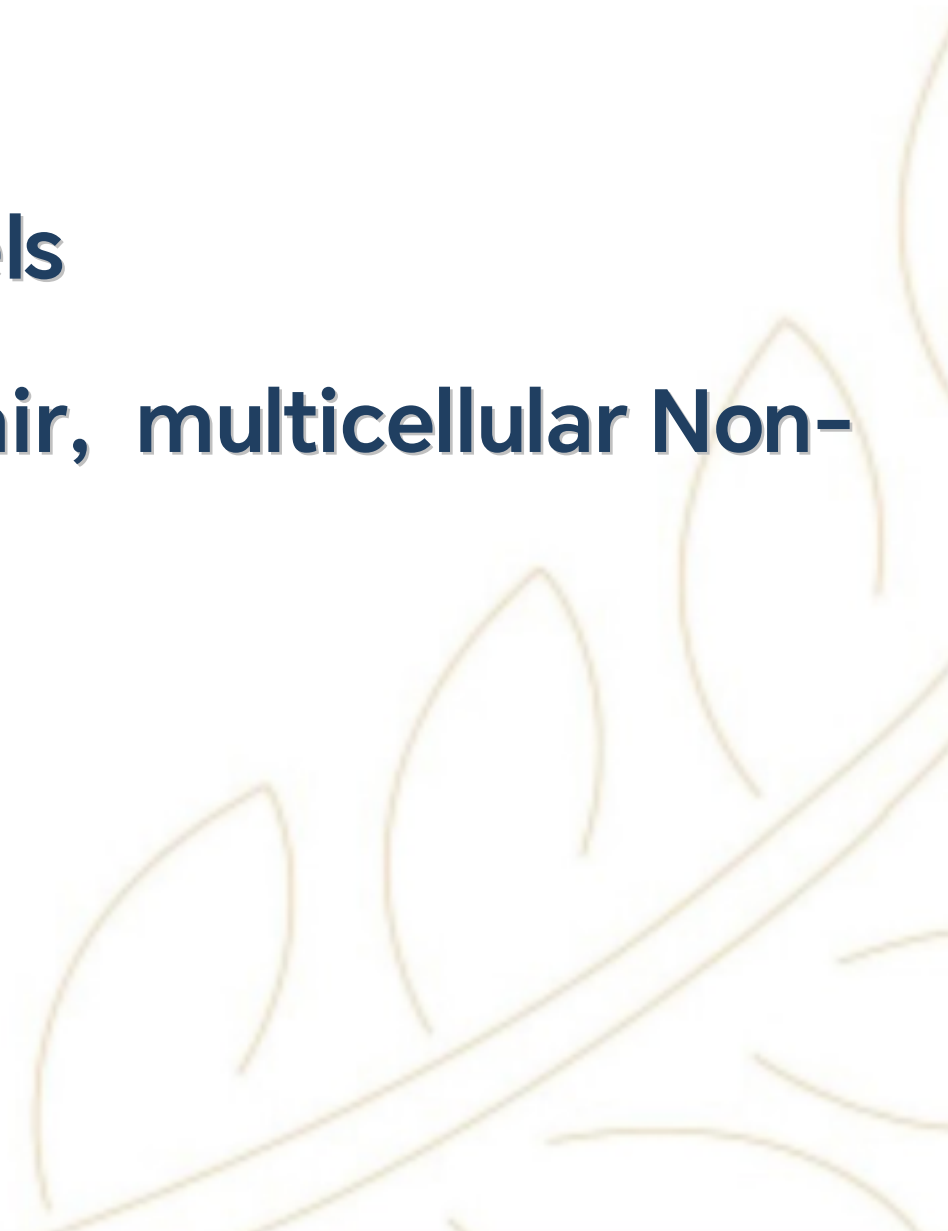
b- Non-glandular hair



Microscopical Characters:

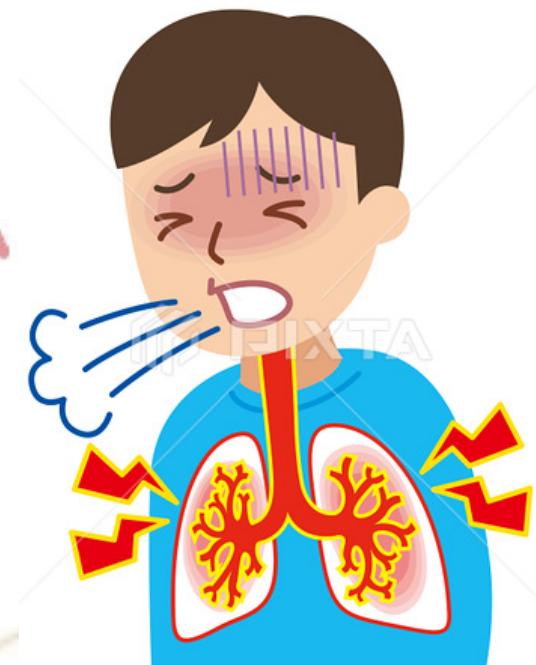
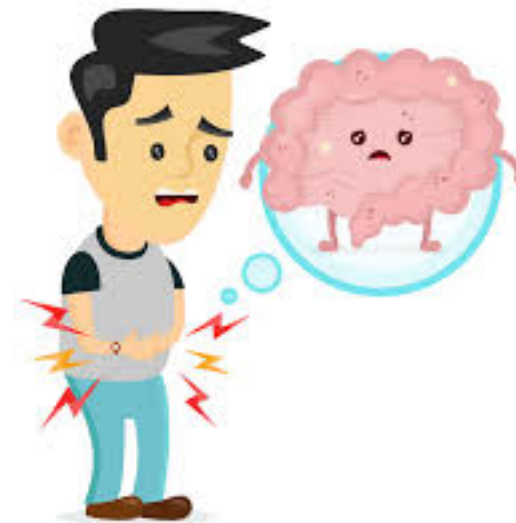
- **Mount in KOH:** All key elements
- **Mount in phloroglucinol:** Xylem vessels

Mount in water: Labiate glandular hair, multicellular Non-glandular hair and capitate hair



Uses

- 1- Used for bronchitis, whooping cough and upper respiratory tract infections.
- 2- The oil is used as carminative, antispasmodic
- 3- Flavouring agent and antiseptic in mouth washes, toothpaste and creams
- 4- Antifungal for skin infection



Herbs

2-Lobelia “Indian tobacco”

Origin:

The dried aerial parts of
Lobelia inflata Family:
Campanulaceae.



Morphology of stem:

Shape: Winged, hairy

Color: Pale green-light green



Physical characters:

Condition: Fine powder.

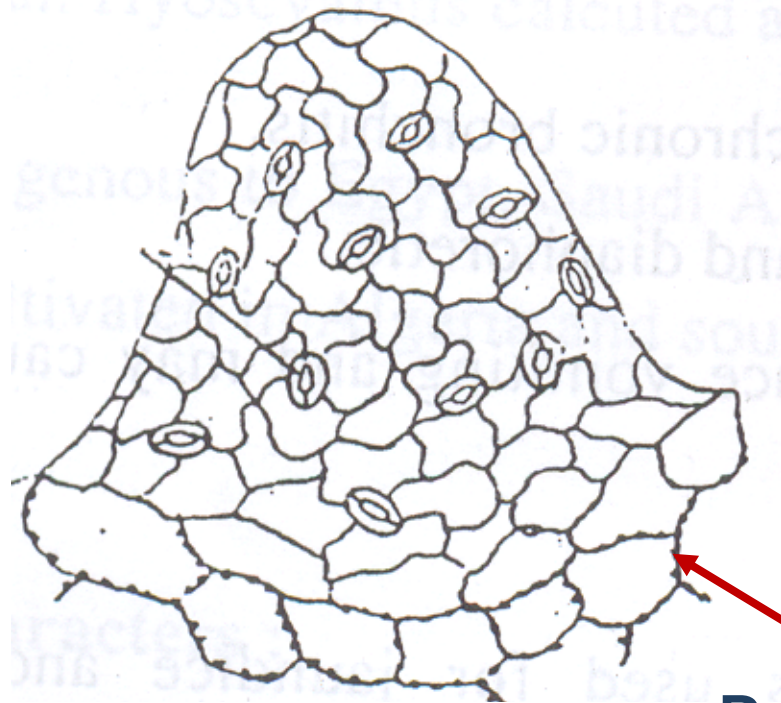
Colour: light Green.

Odor: Irritant odor.

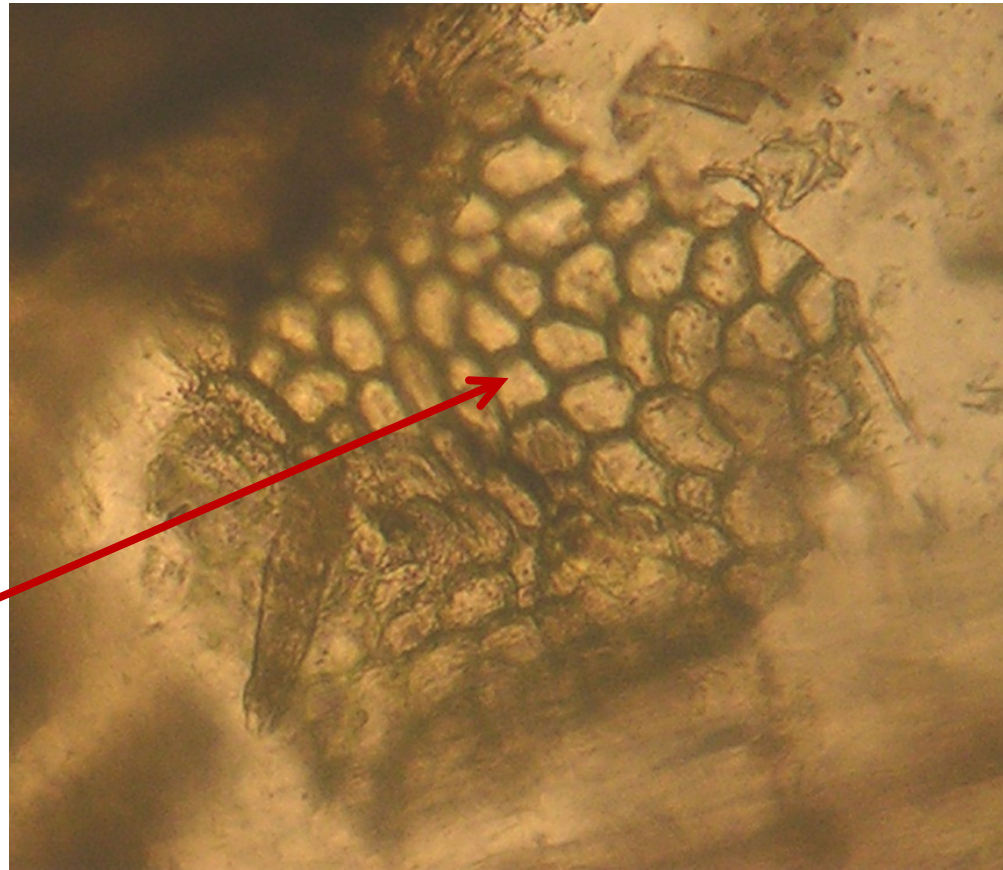
Taste: Burning acrid.



Key Elements



Papillosed
cells

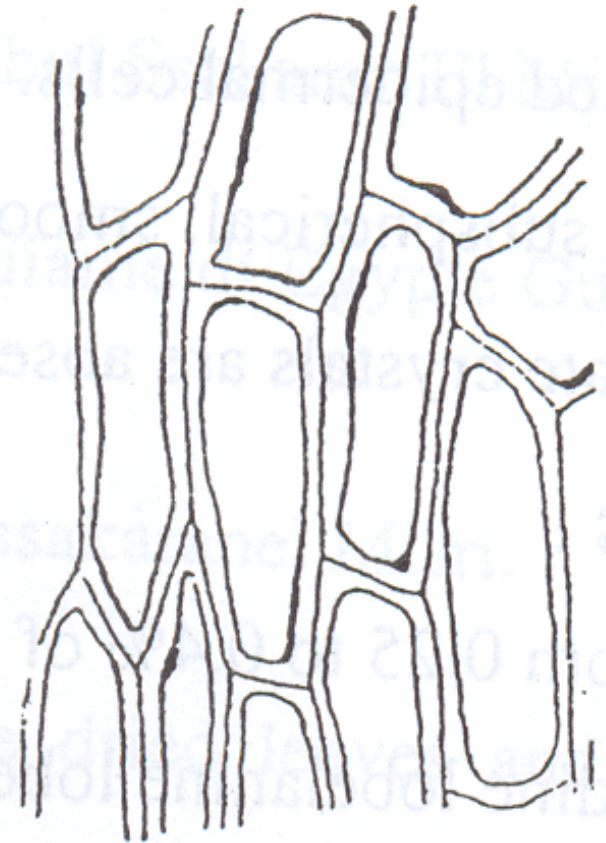


Epidermal cells of leaf with anomocytic stomata and
beaded anticlinal walls

Key Elements

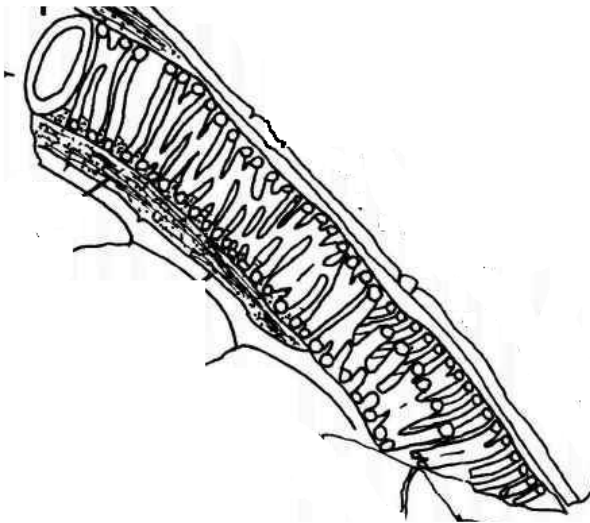


**Non glandular hair
unicellular with
streaked cuticle**

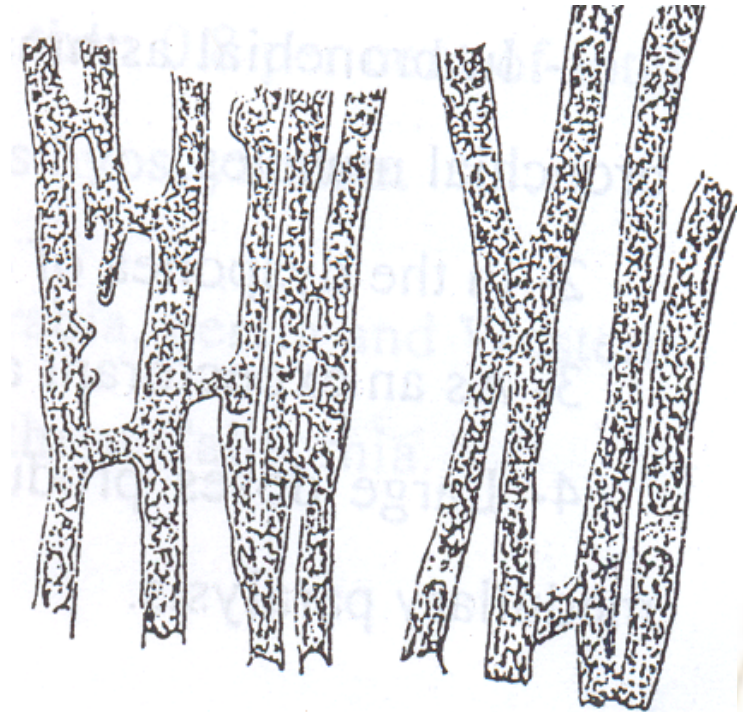


Seed coat

Key Elements



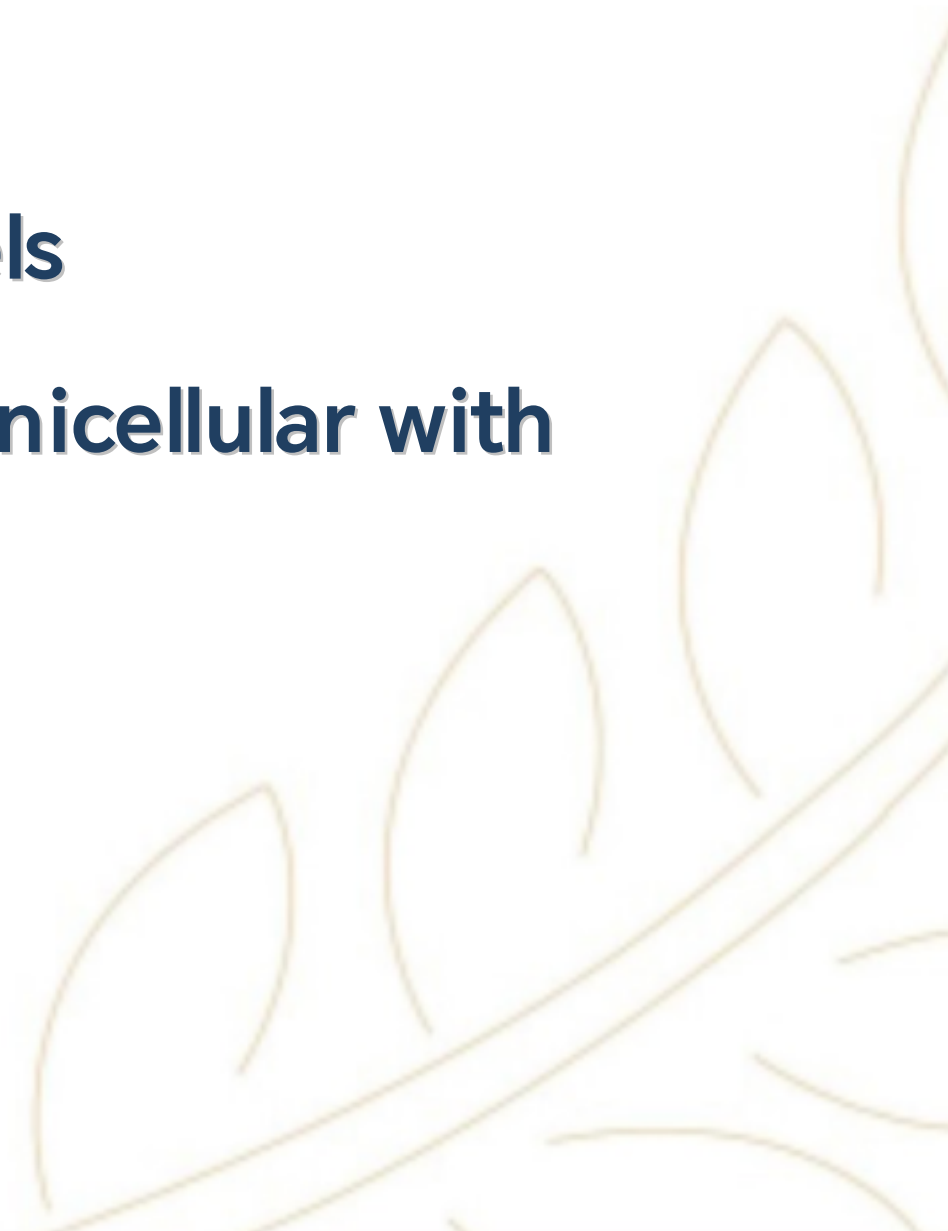
Xylem vessels



**Laticiferous vessels
contain latex**

Microscopical Characters:

- **Mount in KOH:** All key elements
- **Mount in phloroglucinol:** Xylem vessels
- **Mount in water:** Non glandular hair unicellular with streaked cuticle



Uses

1-Expectorant.

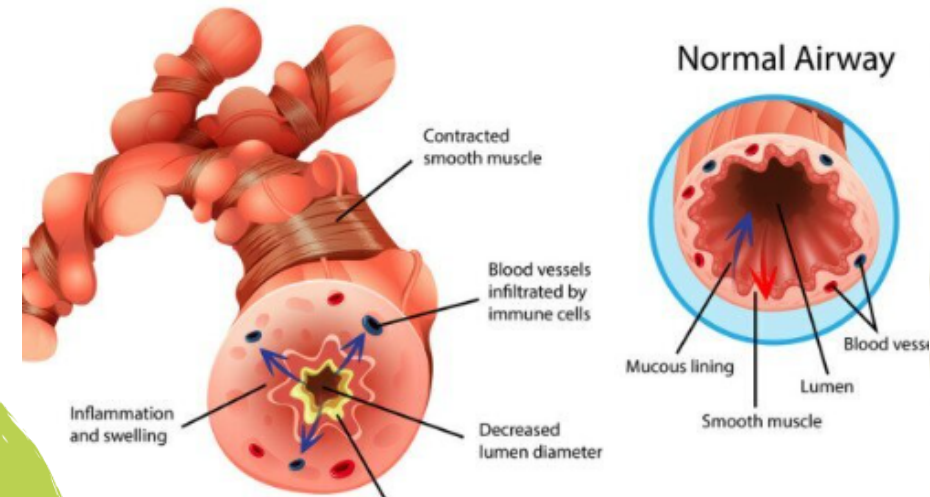


2-An injection of lobeline HCl is used for resuscitation in new born babies.

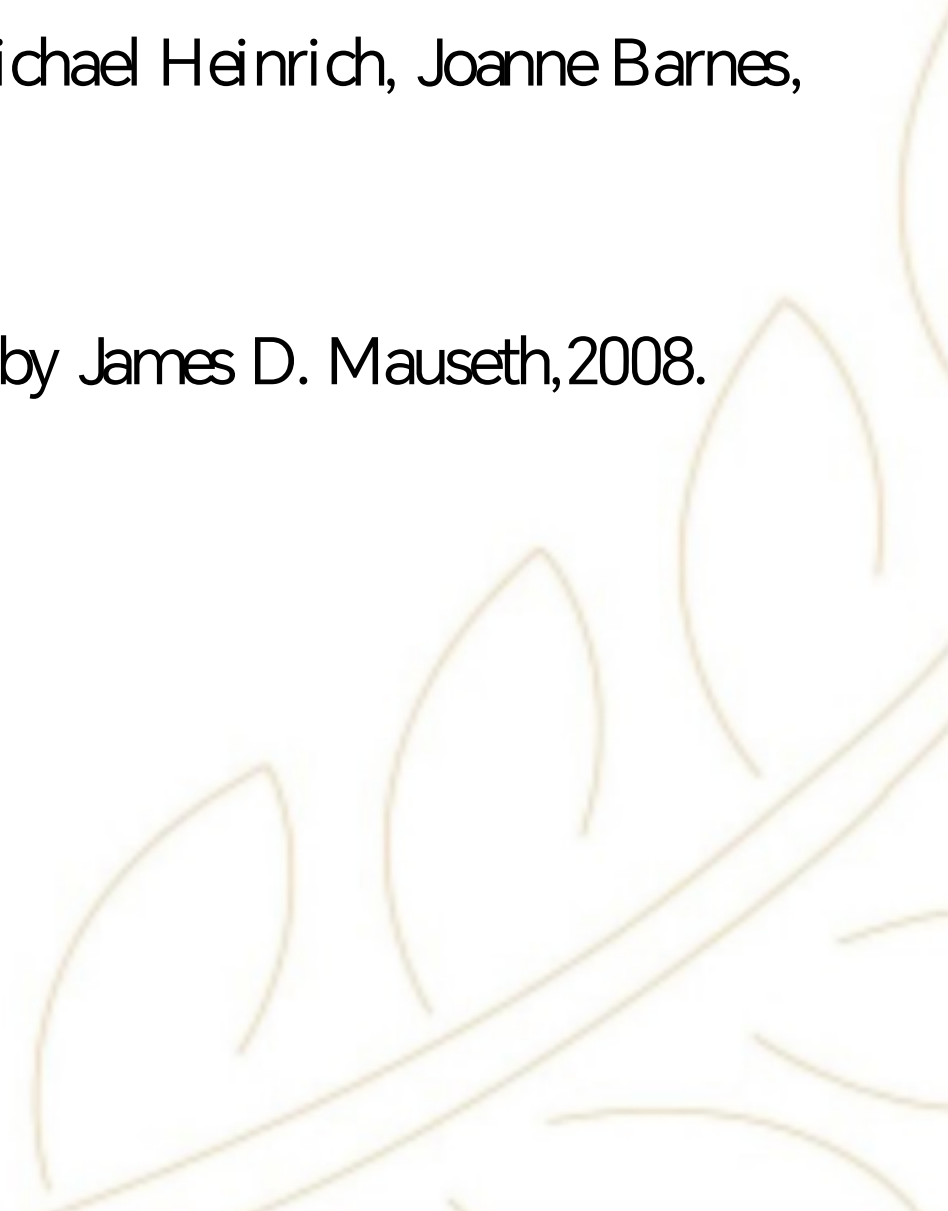
3-In bronchitis & bronchial asthma as it dilates the bronchioles.

4-Breaking of smoking habit.

Bronchial Asthma



References:

1. Trease & Evans' Pharmacognosy by William Charles Evans, 2002.
 2. Fundamentals of Pharmacognosy and Phytotherapy by Michael Heinrich, Joanne Barnes, Simon Gibbons, and Elizabeth M. Williamson, 2004.
 3. Botany : An introduction to Plant Biology, Third edition by James D. Mauseth, 2008.
- 

Useful links:

<http://www.hort.purdue.edu/newcrop/med-aros/default.html>

<http://www.herbmed.org/>

<http://www.danish-schnapps-recipes.com/plants.html>

<http://www.botanical.com/>





Established by Dr.Nawal El Degwi
October University for Modern Sciences and Arts
جامعة أكتوبر للعلوم الحديثة والآداب

Thank You!

THE FIRST BRITISH HIGHER EDUCATION IN EGYPT

26th July Mehwar Road Intersection with Wahat Road, 6th of October City, Egypt

Tel: 00238371113 Postal code: 12451 Email: info@msa.edu.eg

Hotline: 16672 Website: www.msa.edu.eg