

Lab 3

Pharmacognosy

PHG112





Faculty of Pharmacy



Vision

The Faculty of Pharmacy of October University for Modern Sciences and Arts is a pioneer in tutelage, scientific research, and community service at the local and regional levels, and holds an advanced position among its counterparts in international Pharmacy subject ranking

الرؤية

- كلية الصيدلة جامعة أكتوبر للعلوم الحديثة و الآداب كلية رائدة فى مجال التعليم و البحث العلمى و المشاركة المجتمعية على المستوى القومى و الإقليمى و لها ترتيب متقدم فى التصنيف العالمى لكليات الصيدلة.

Mission

•The Faculty of Pharmacy of October University for Modern Sciences and Arts is nationally accredited, has British partnership, and is committed to producing graduates who are able to compete in national and international job markets and entrepreneurship, and to be an effective member of the medical team providing best medical care, while heeding professional ethics, through an outstanding academic programme and proficient academic staff. The faculty is devoted also to provide effective community services, and exceptional applied scientific research.

الرسالة

• كلية الصيدلة جامعة أكتوبر للعلوم الحديثة والآداب معتمدة محليا، بشراكة بريطانية، تلتزم بتخريج صيدلى قادر على المنافسة فى أسواق العمل المحلية و الدولية و قيادة الأعمال، و أن يكون عضو فعال فى الفريق الطبى بتقديم أفضل رعاية صحية، مراعيأ أخلاقيات المهنة، من خلال برنامج تعليمى متميز و أعضاء هيئة تدريس أكفاء، وكذلك تلتزم الكليه بتقديم خدمات مجتمعية فعالة و أبحاث علمية تطبيقية متميزة.

Pharmacognosy

PHG112

Items	Marks
Quizzes	5 Marks
Assignment	15 Marks (9+6)
Practical Exam(s)	40 Marks (15+15+10)
Mid Term Exam	30 Marks
Final Exam	60 Marks
TOTAL	150 Marks



Pharmacognosy

PHG112

RULES

- **Lab evaluation –10 marks**
- **Attendance**
 - (only 15 min late is allowed)
 - (sign for yourself).
- **Lab coat:**
 - (not allowed to be in the lab without it).
 - (take it on and off before and after you get to the lab).
- **Drawing:**
 - (during the lab time).
 - (in a specific note using pencil).



Pharmacognosy

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RULES

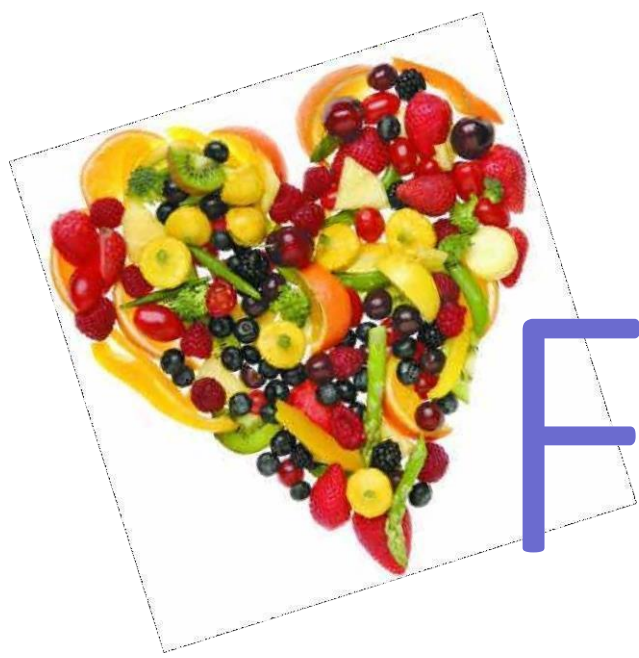
- **Lab evaluation --10 marks**
- **Work place and tools:**

- (waste disposal → don't throw anything in the **Sink**).
- (microscope → **switch it OFF**).

- **Behavior:**

- (may get you to loose the whole 5 marks).



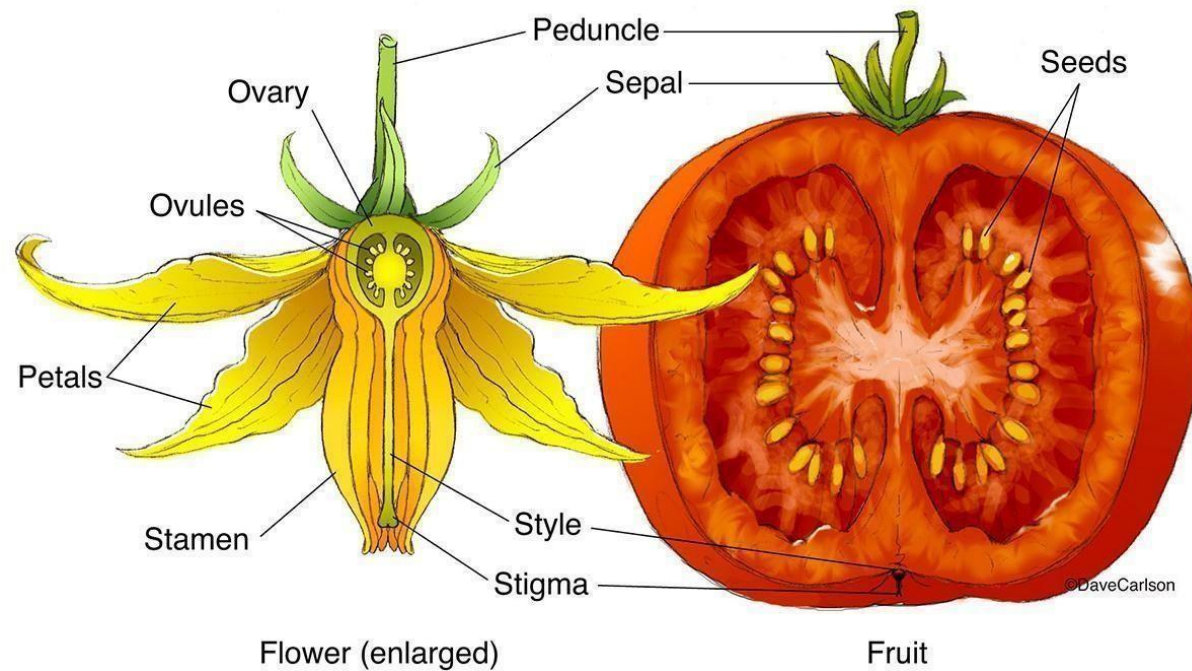


Fruits



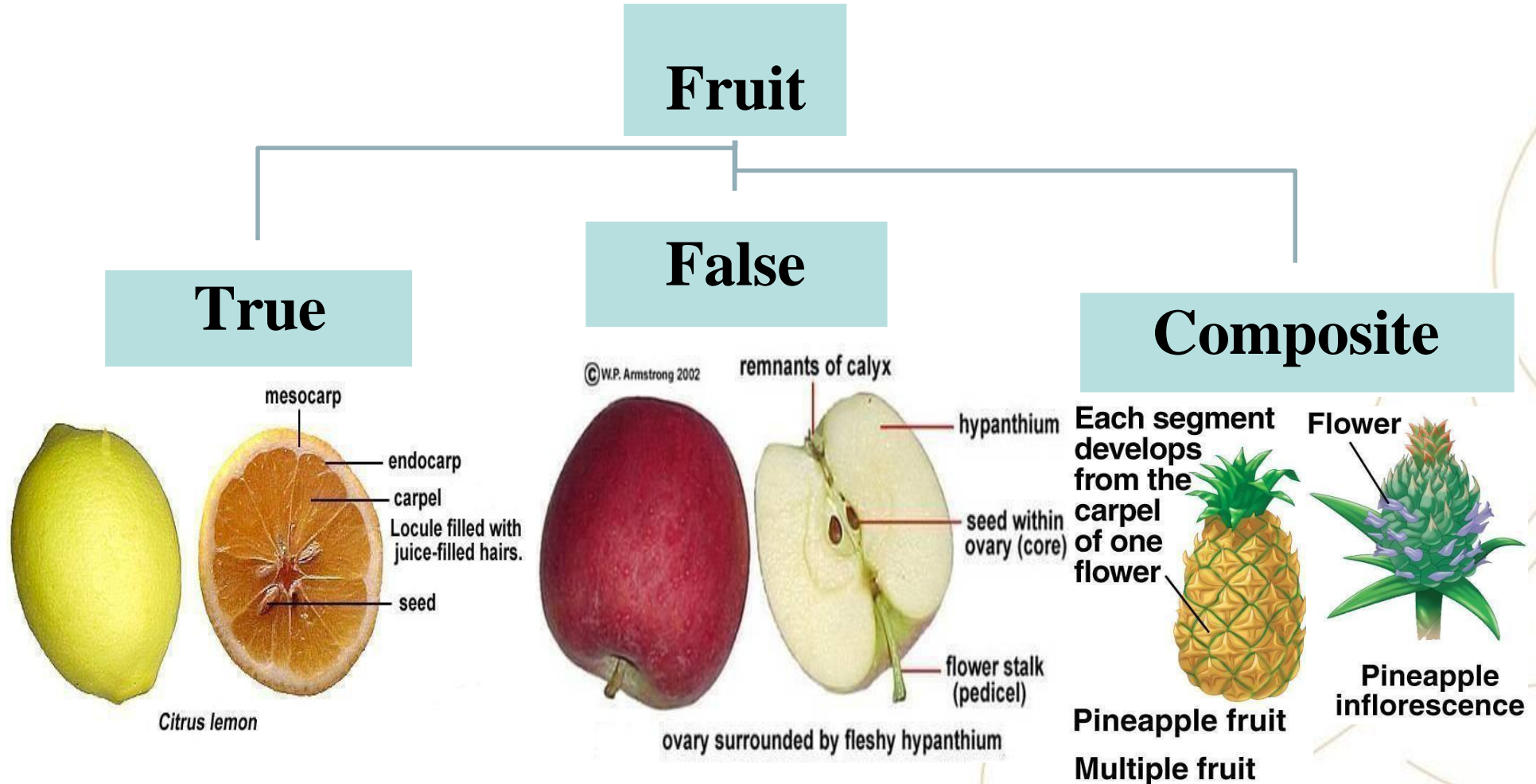
Definition:

The whole product of development of gynaecium after fertilization.



Classification

- According to the floral parts used:

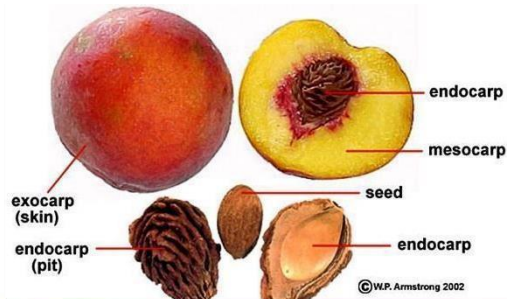
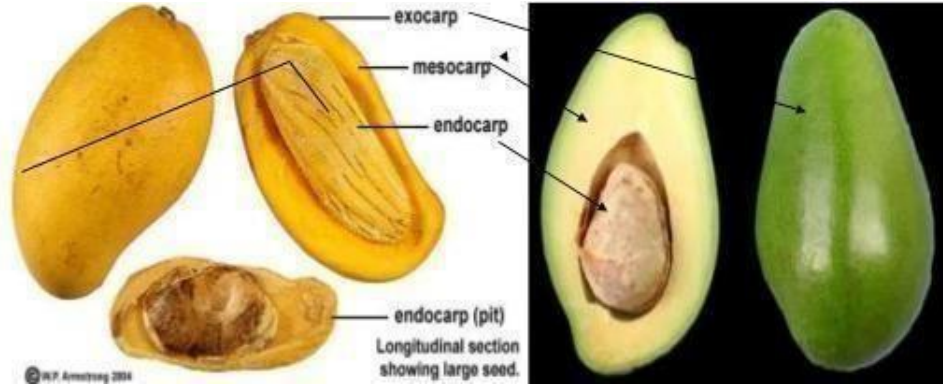


Classification

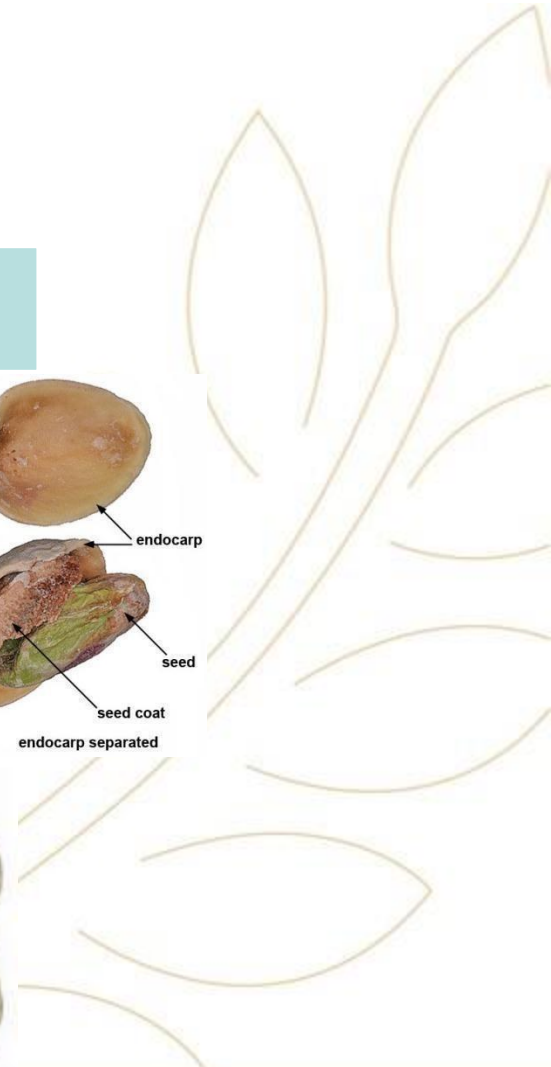
- According to the type of pericarp:

Simple

Succulent

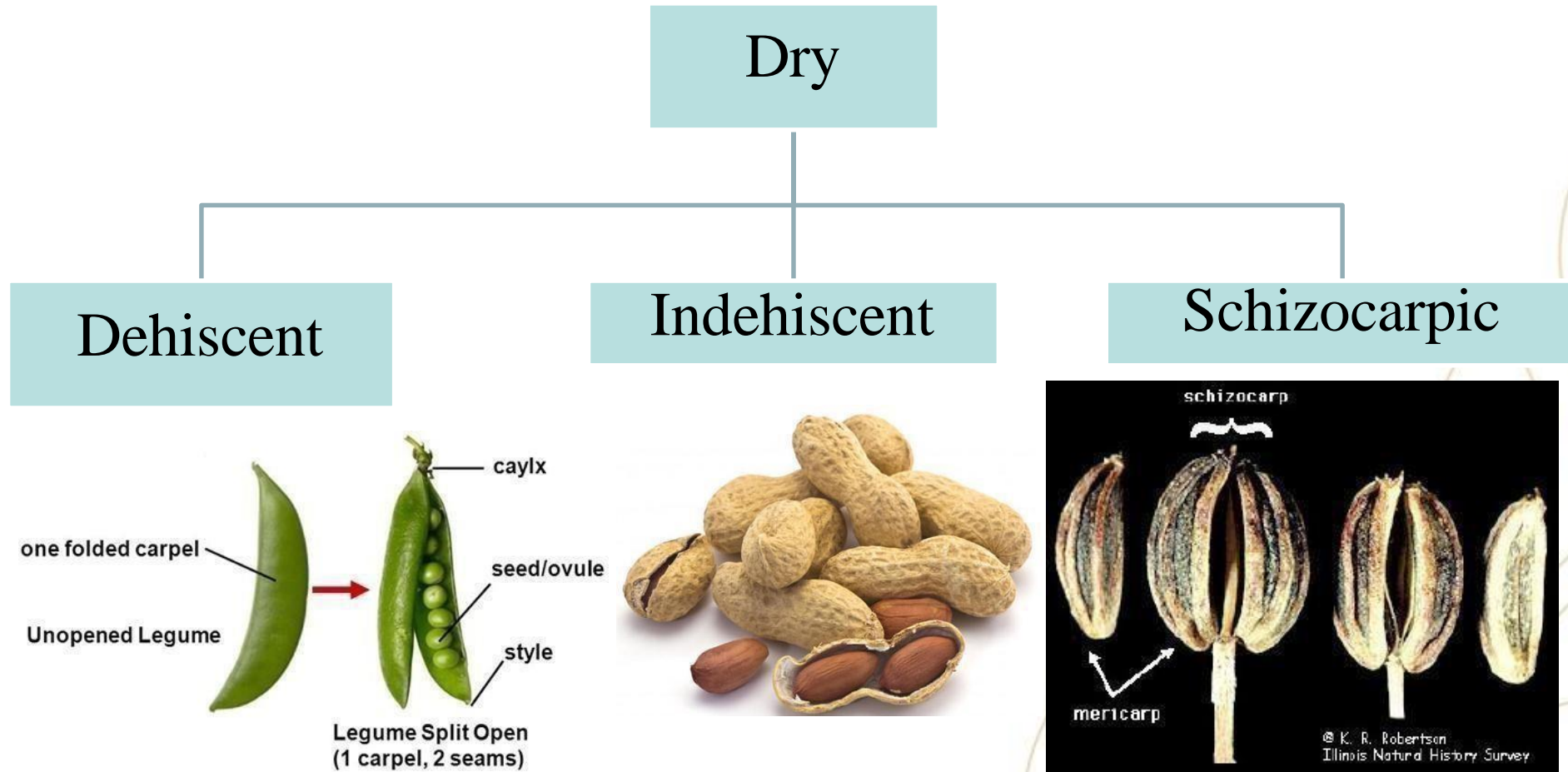


Dry



Classification

- According to the behaviour after ripening:





Fruits



Fennel

- **Origin:**

It is the dried ripe fruits of *Foeniculum vulgare* family Apiaceae (Umbelliferae).



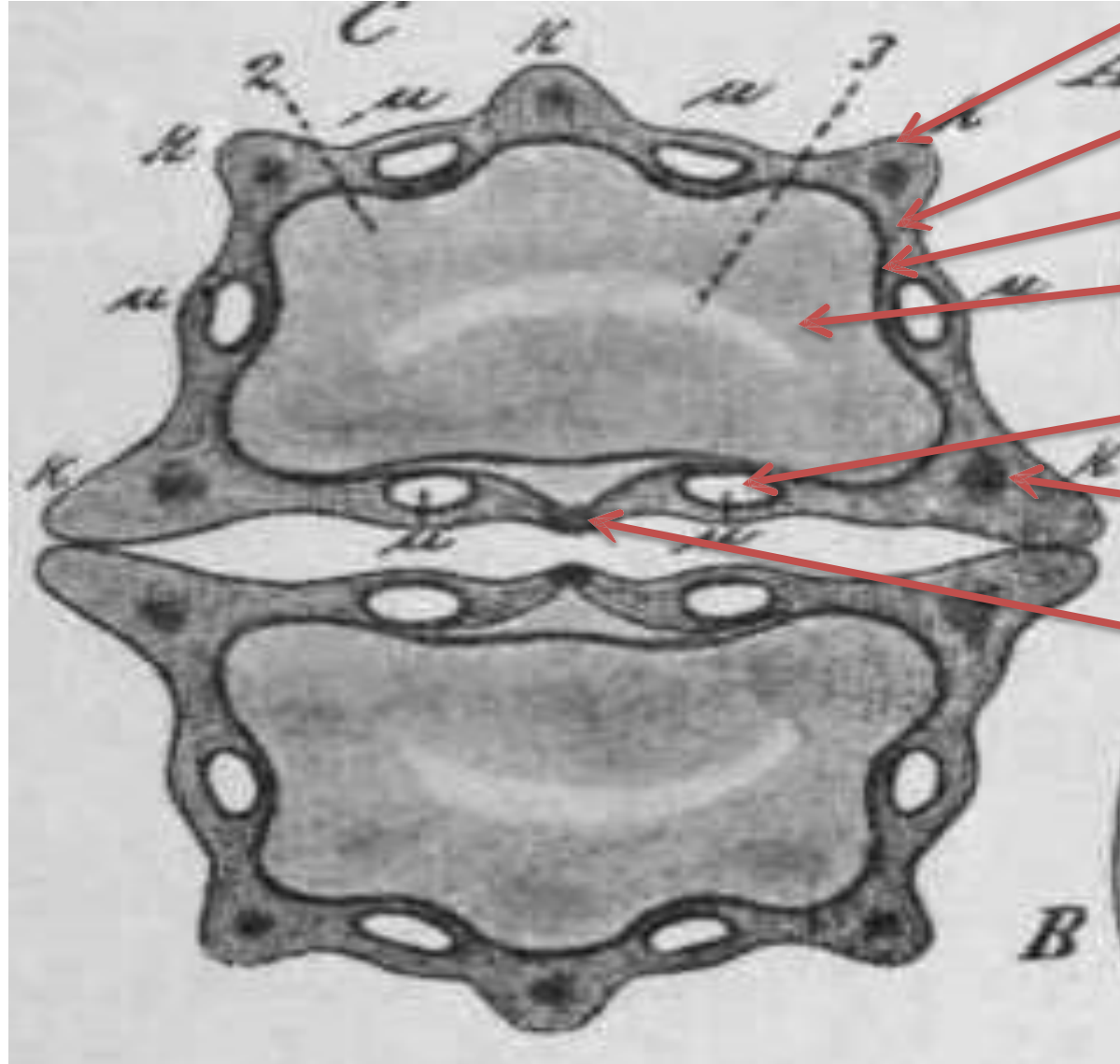
Morphology:

- **Shape:** Cylindrical
- **Colour:** Yellowish green
- **Odor:** Aromatic
- **Taste:** Sweet taste
- **Surface:** Glabrous

Primary ridge
Secondary ridge



T.S.



pericarp

mesocarp

endocarp

endosperm

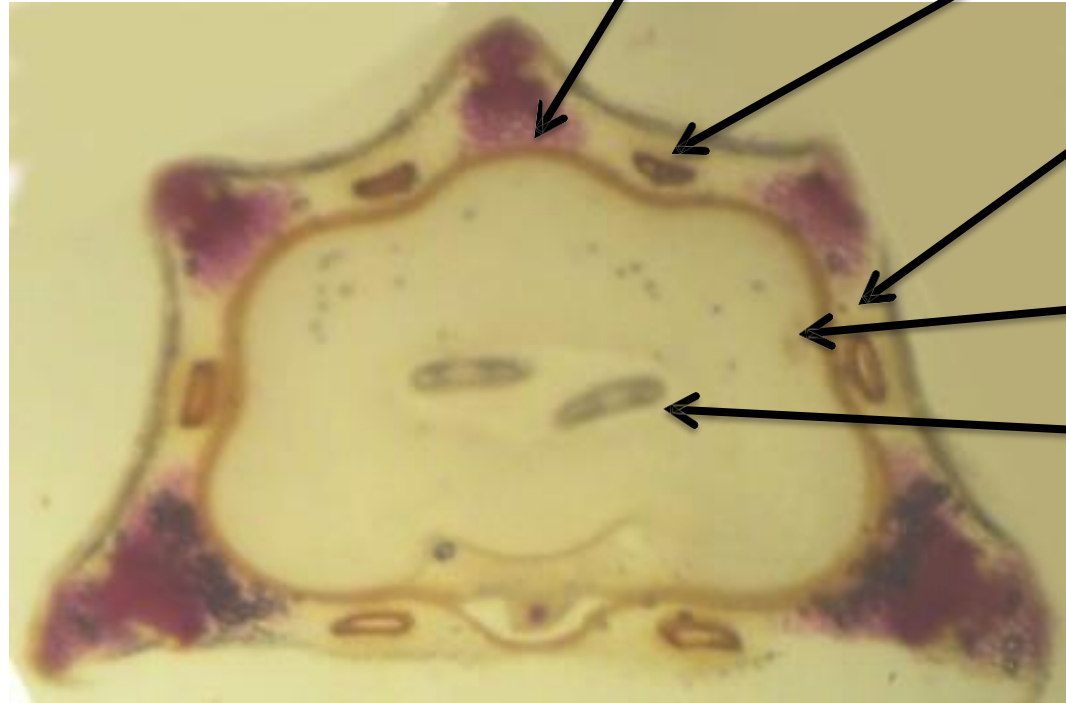
vittae

Vascular

bundle

raphe

T.S.



Vascular
bundle

Simple
vittae

epicarp
mesocarp

pericarp

endocarp

endosperm

raphe

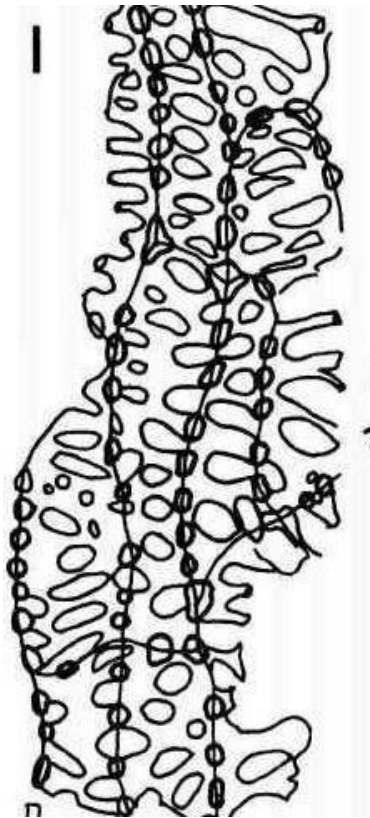
Powder:

- **Condition:** Fine powder
- **Colour:** Yellowish green
- **Odour:** Aromatic odour
- **Taste:** Aromatic taste

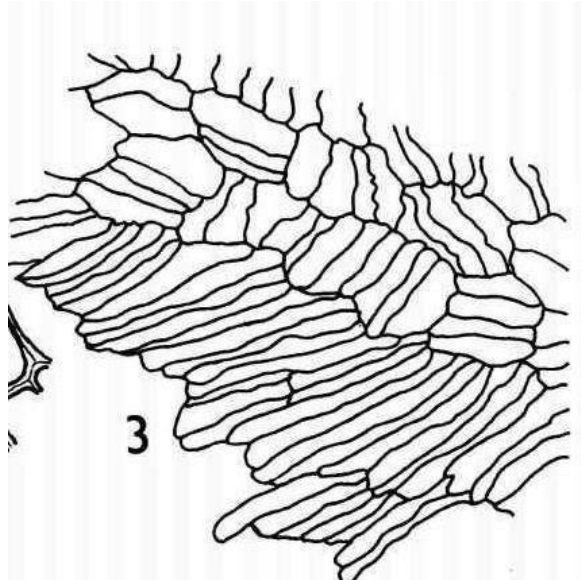


Key elements:

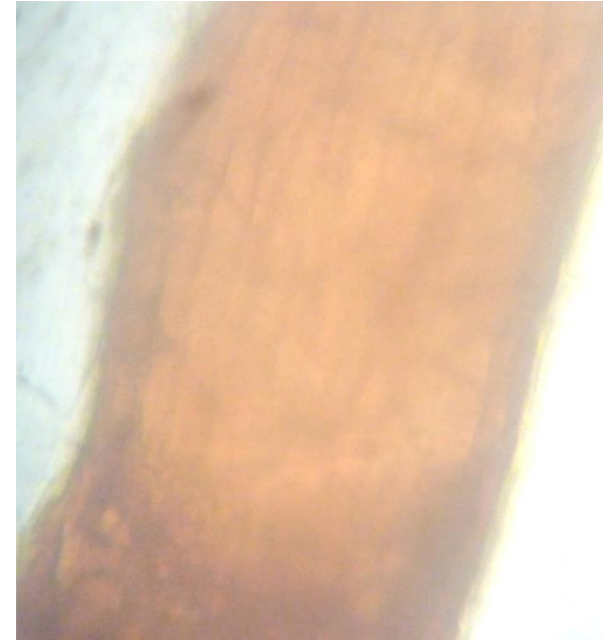
**Reticulate lignified
parenchyma**



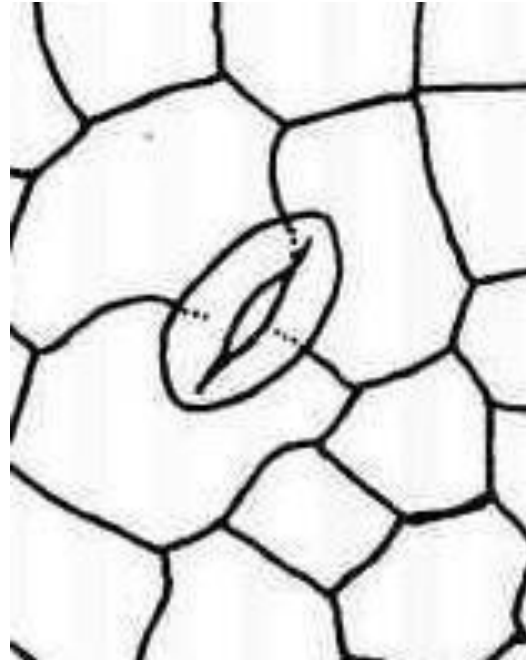
**Parquetory
endocarp**



**Simple
vittae**



**Epicarp: Straight wall, smooth cuticle,
anomocytic stomata.**

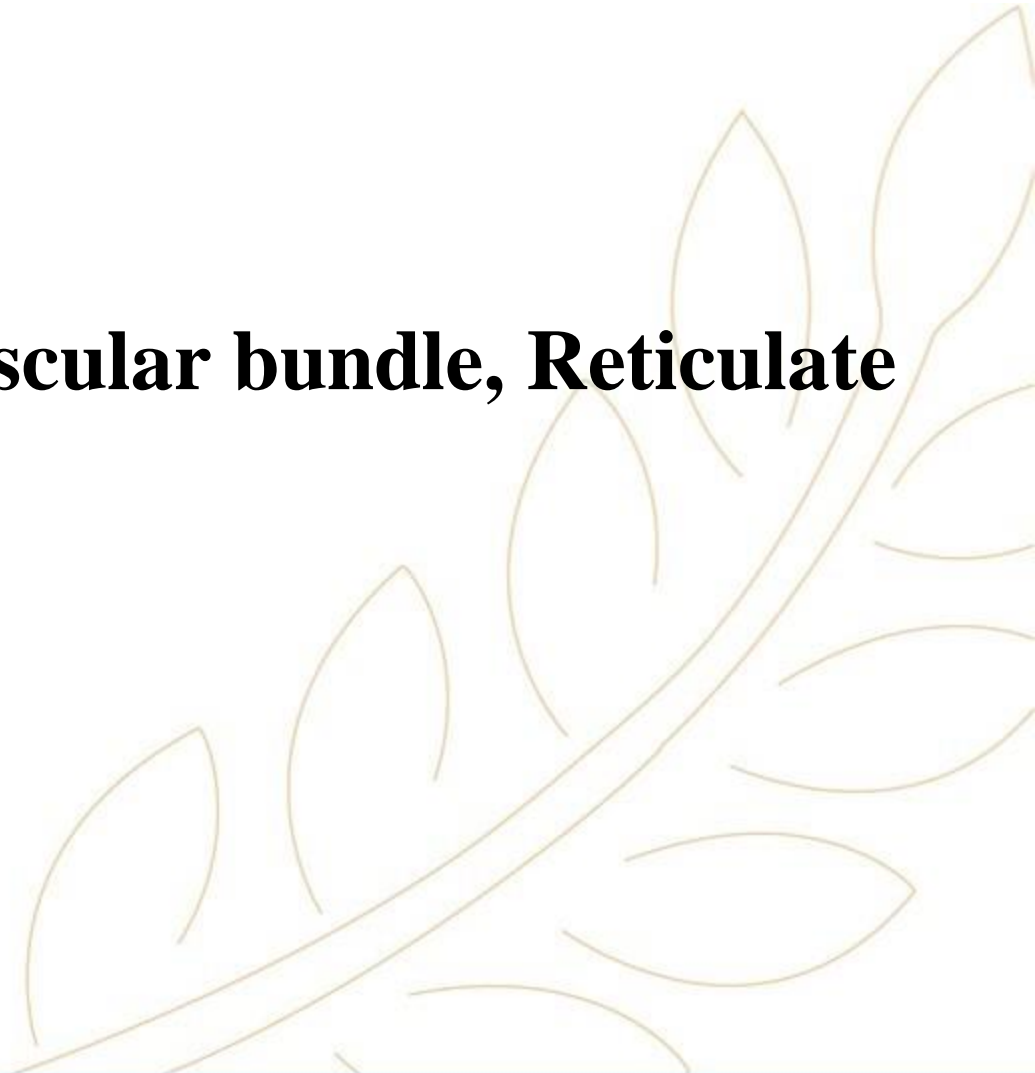


Microscopical Character:

Mount in KOH: All key elements

Mount in Phloroglucinol : Raphe, Vascular bundle, Reticulate lignified parenchyma and Carpophore

Mount in Water: Negative



Uses

1. **Carminative** (relative the associated pain and cramping in GIT)
2. **Lactagogue**
3. **Mild expectorant**
4. **Aid to weight loss**



Anise

Origin:

It is the dried fruits of *Pimpinella anisum* Family Apiaceae



Morphology:

Shape: Pear shaped, large base and tapered ends

Size: Small

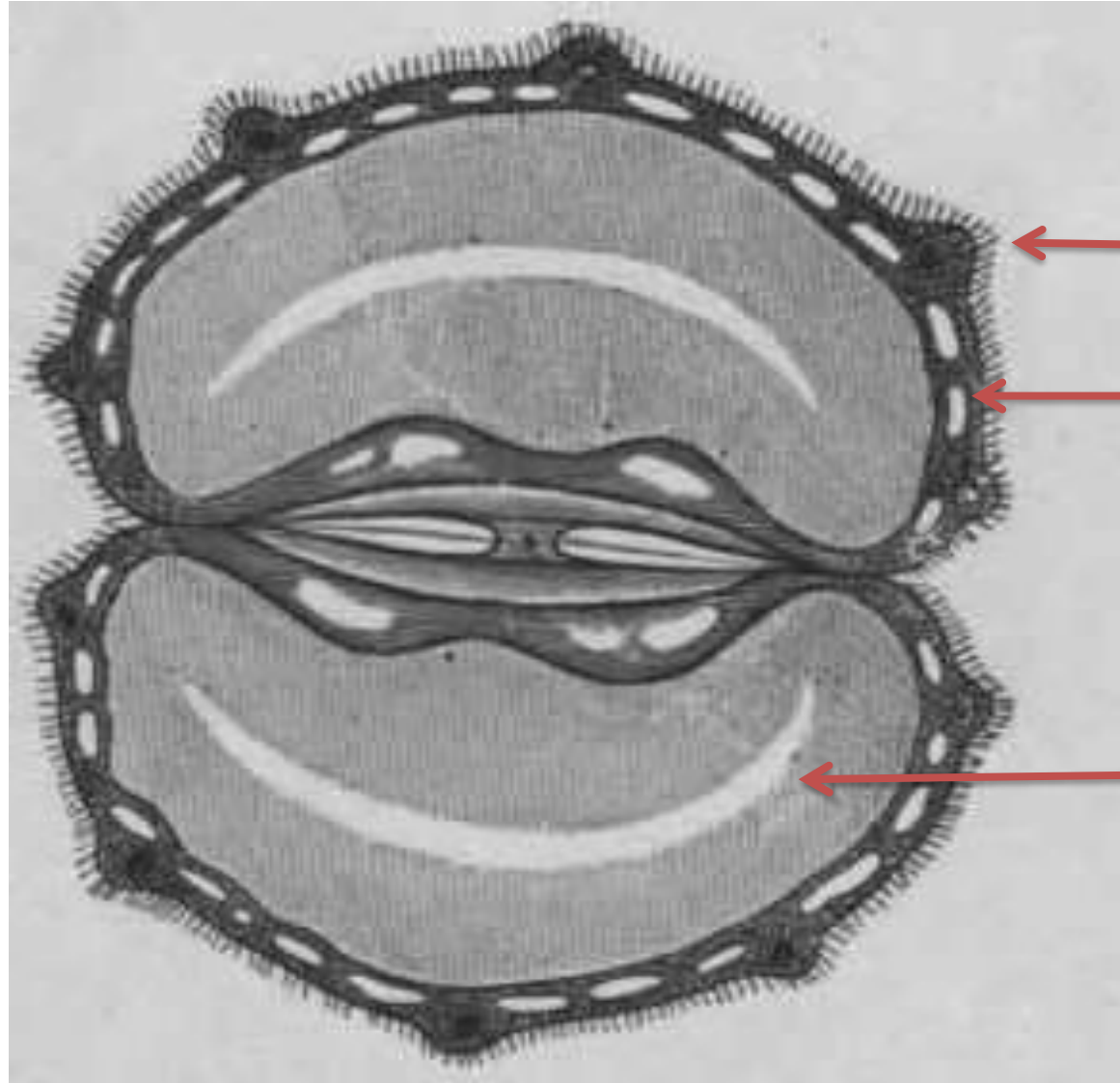
Colour: Greenish grey

Odour: Aromatic agreeable

Surface: Hairy on dorsal side



T.S.



Hairy pericarp

Branched vittae

Endosperm

T.S.



hairs

Vascular bundle

endosperm

Branched vittae

Pitted lignified parenchyma

Powder:

Physical characters:

Condition: Fine powder

Colour: Yellowish green

Odour: Aromatic odour

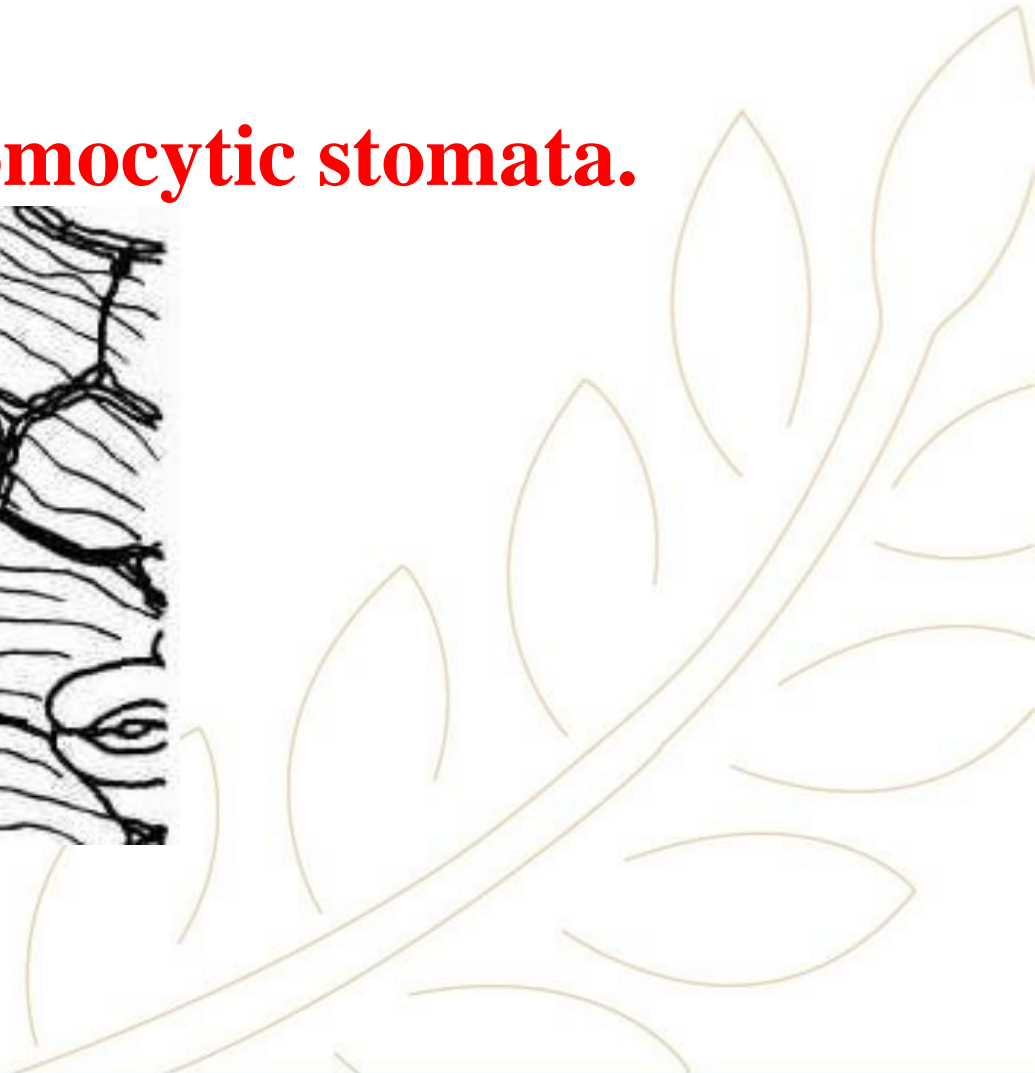
Taste: Sweet aromatic taste



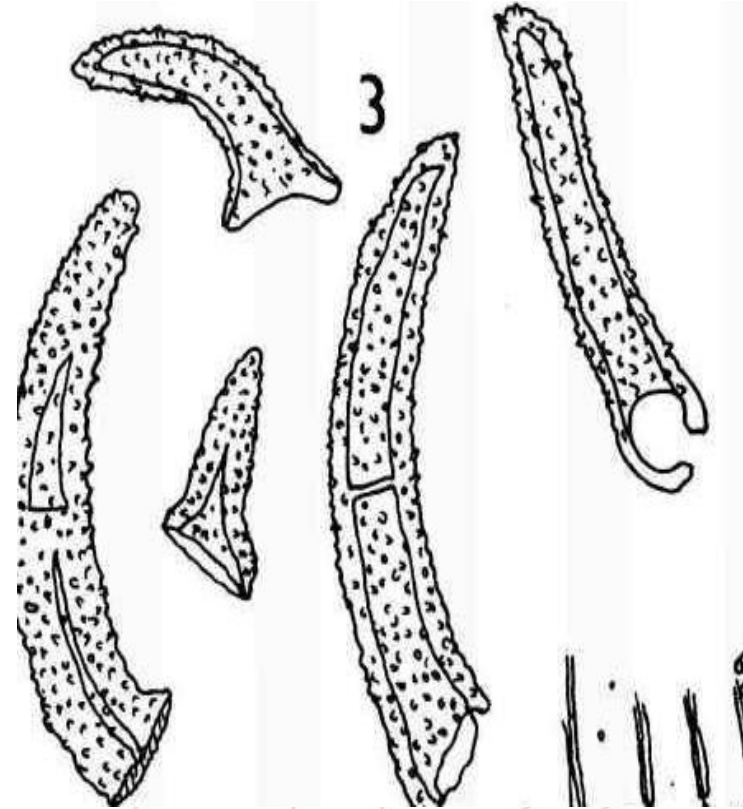
Key elements:

1- Epicarp

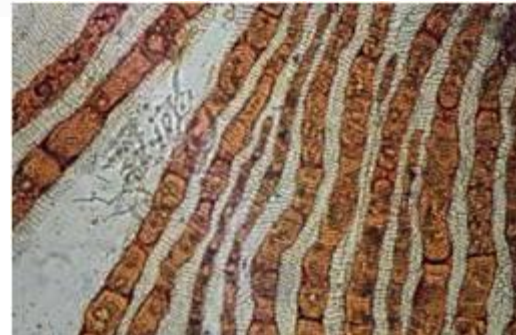
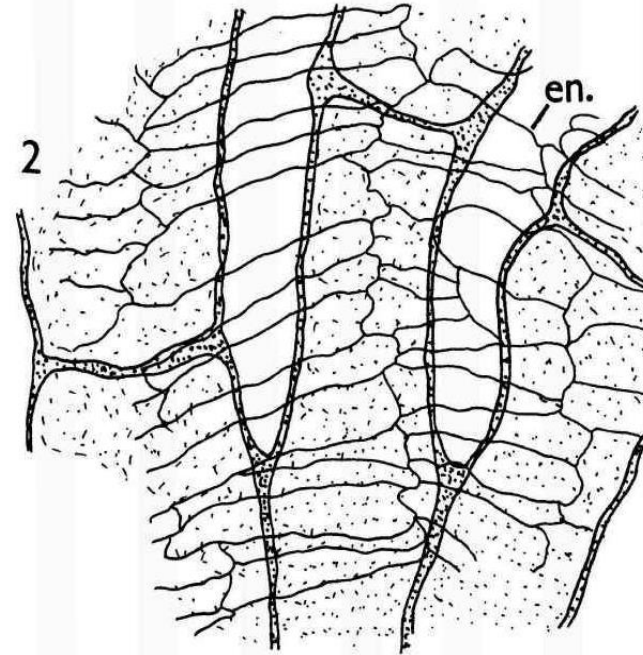
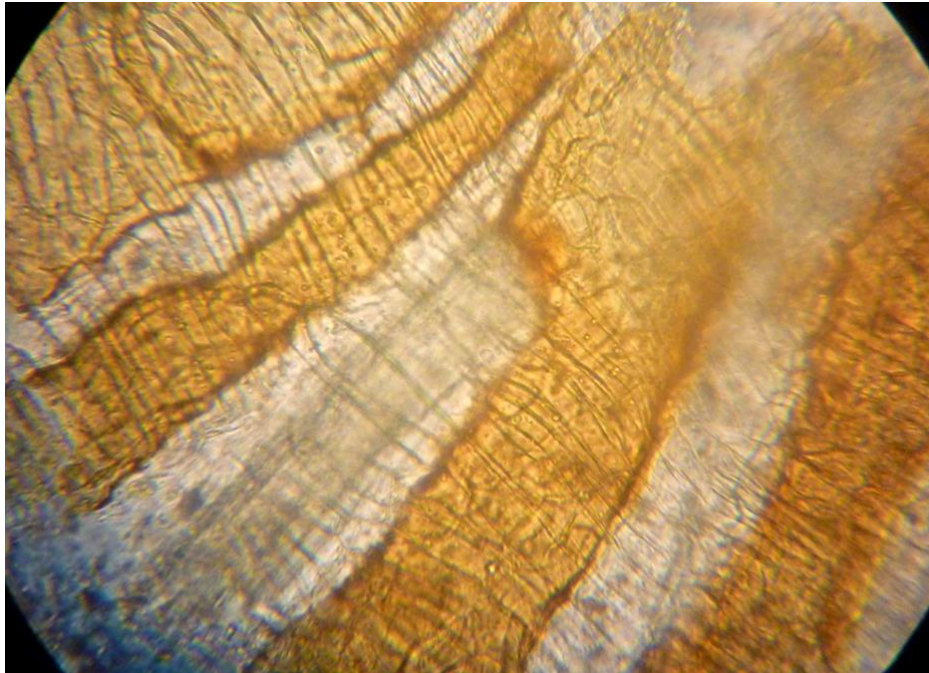
Slightly wavy wall, striated cuticle, anomocytic stomata.



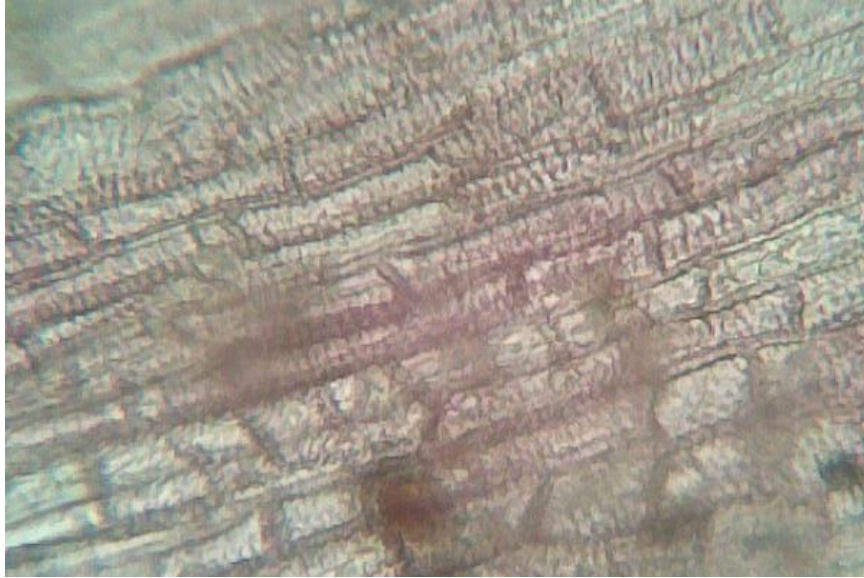
2-Unicellular (occasionally bicellular) non glandular hair with warty cuticle



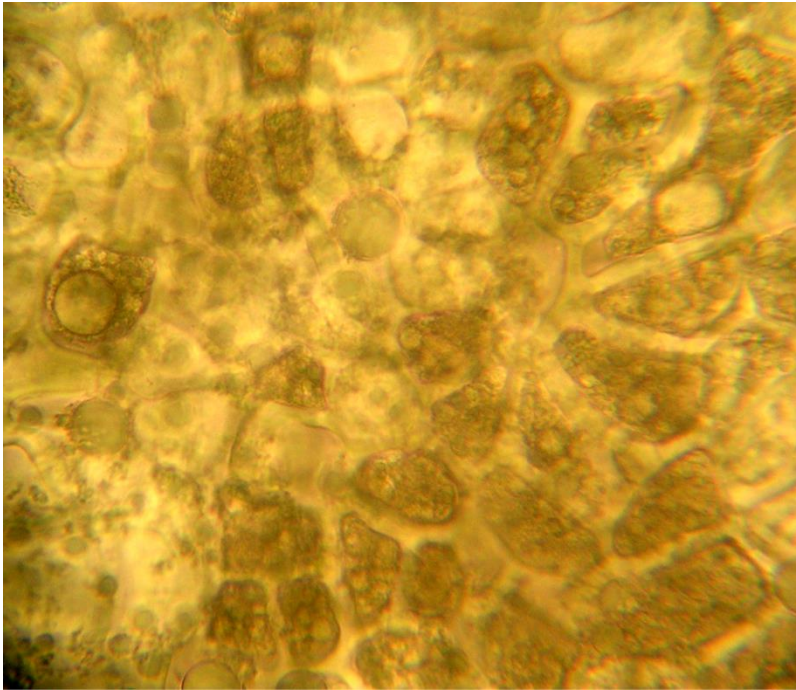
3-Branched vittae overlapped by non-parquetory endocarp



4-Lignified pitted parenchyma



5-Numerous fragments of endosperm.

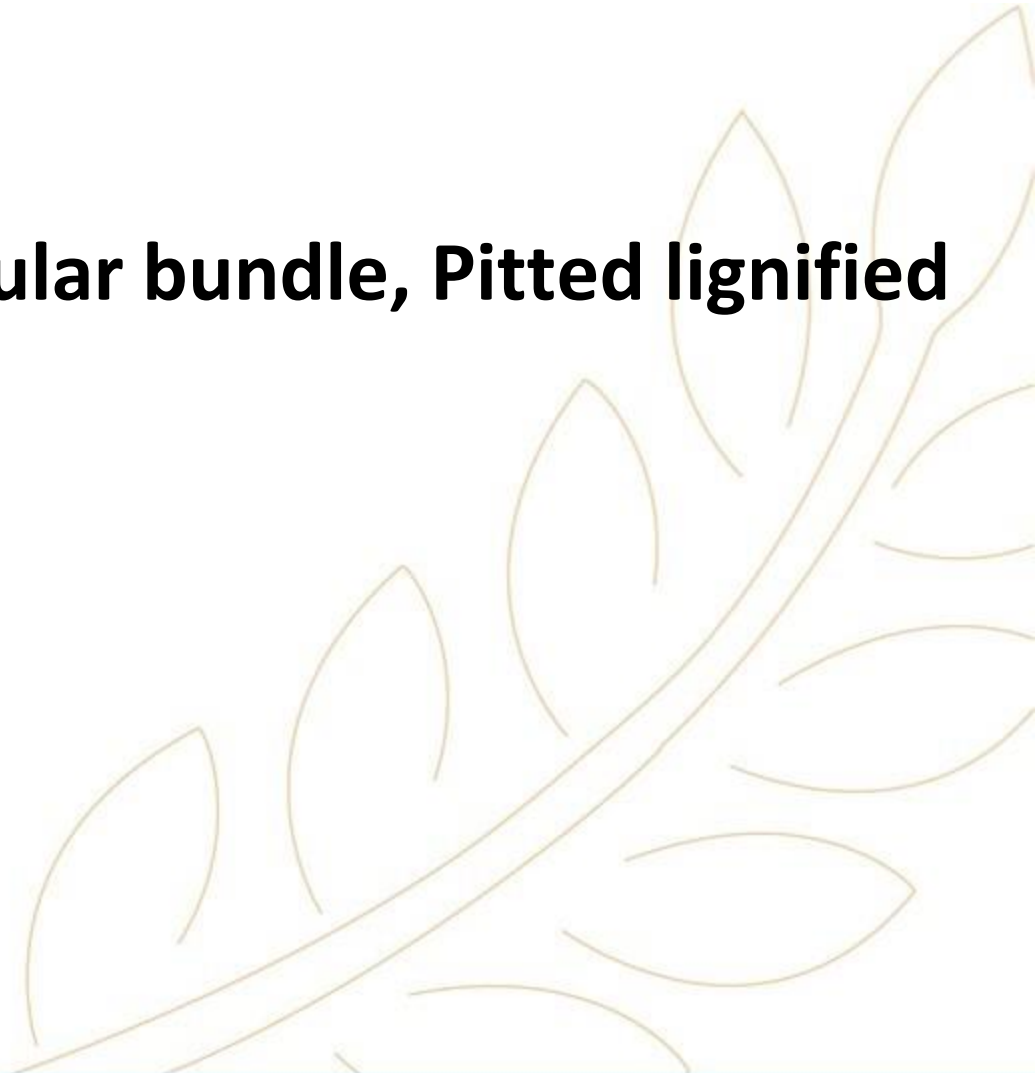


Microscopical Character:

Mount in KOH: All key elements

Mount in phloroglucinol : Raphe, Vascular bundle, Pitted lignified parenchyma and Carpophore

Mount in Water: Hair



Uses

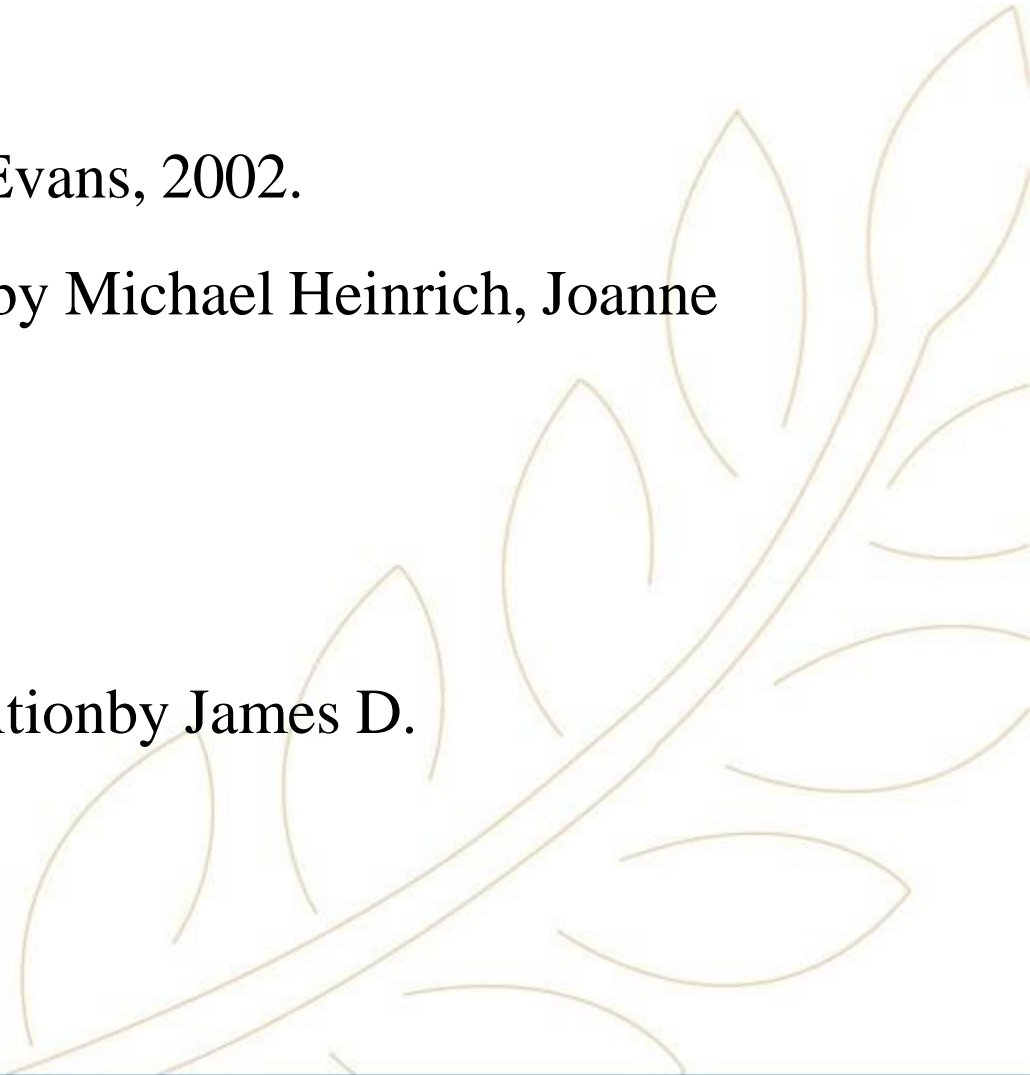


1. Treat respiratory tract infections as cough and bronchitis
2. Carminative and Relieving colic in children.
3. Lactagogue
4. Has a sedative action.
5. Oil is also employed in food & drink industry as flavoring agent.



References:

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



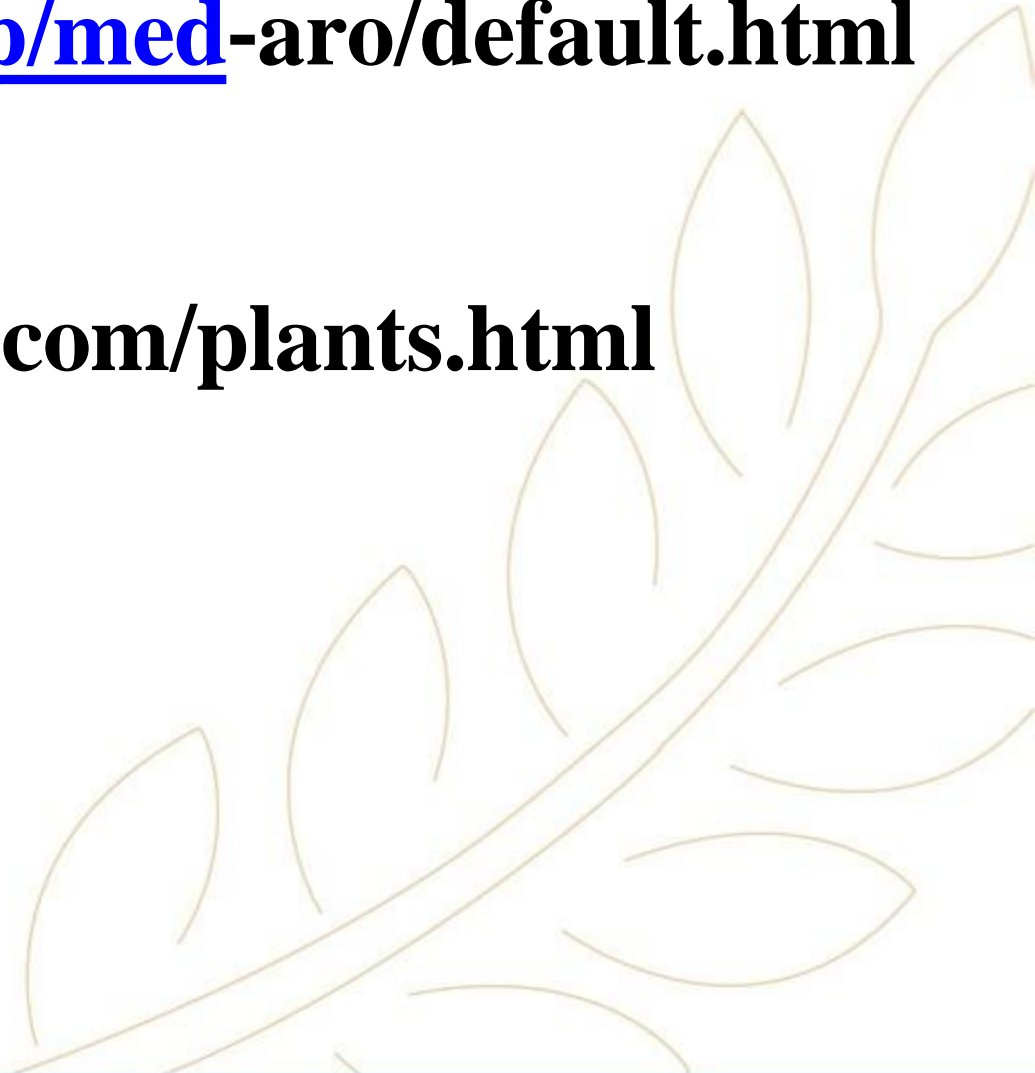
Useful links:

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

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

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

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





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