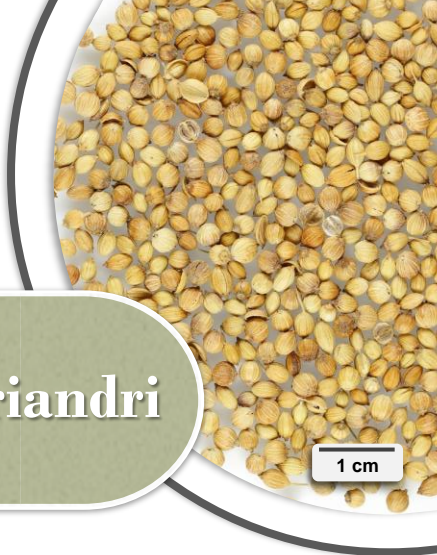




**Identification of
Tiny Seed and Fruit
Types of Chinese
Materia Medica**



Fructus Coriandri

Source

The dried fruit of *Coriandrum sativum* L. in the family Umbelliferae

Property and flavour

Neutral; pungent and sour

Meridian affinity

Lung, stomach and large intestine meridians

Actions

To strengthen the stomach and relieve accumulation; to regulate qi and alleviate pain; to promote skin eruption and remove toxins

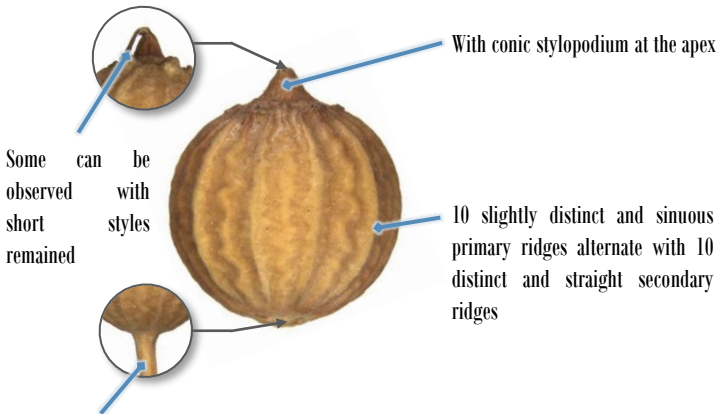
Micro-morphological features

Shape

Mostly are intact cremocarps which appear spherical or ovoid



1 mm

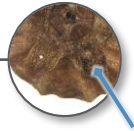
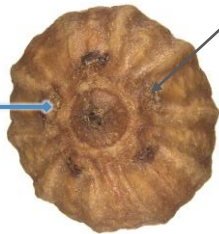


Surface view

Cremocarp

1 mm

Remnants of 5 calyx teeth are observable



Some with calyx teeth remained

Top view

Base is mostly not intact and has sub-rounded fruit stalk scar



Bottom view

Cremocarp

Commissure is slightly dented



A few split into halves as mericarps

Commissural view

Mericarp

Surface

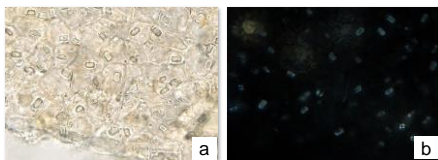
Brownish-yellow, light brownish-yellow or greyish-brown on the surface of cremocarp and the dorsal side of mericarp. Fine reticulate striations (→) with 2 brown and slightly curved vittae (→) on top of them is observable on the commissure of mericarp



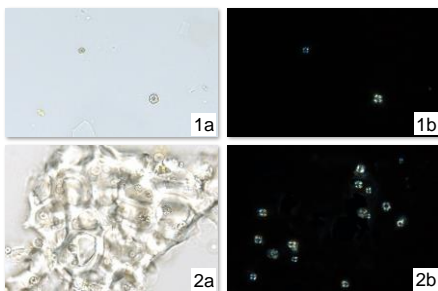
0.5 mm

Powder microscopic features

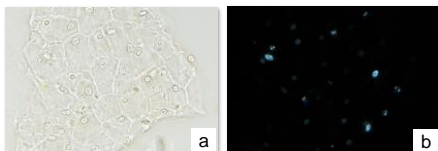
Crystal

Prism of calcium oxalate

Sub-rectangular or sub-square, fine, present in exocarp cell; white under polarized light microscope

Cluster of calcium oxalate

Scattered (1) or present in endosperm cell (2), fine; polychromatic under polarized light microscope

Round crystal

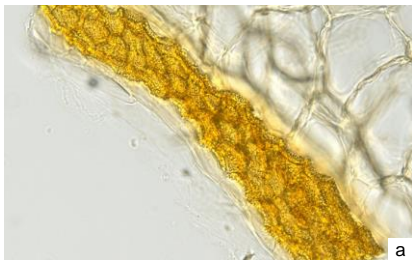
Sub-rounded or sub-ovoid, fine, present in exocarp cell; white or orange-yellow under polarized light microscope

a. features under bright field; b. features under polarized light

50 μ m

Secretory tissue

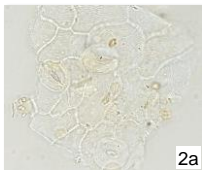
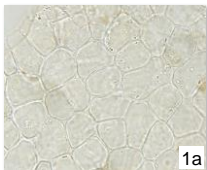
Vitta



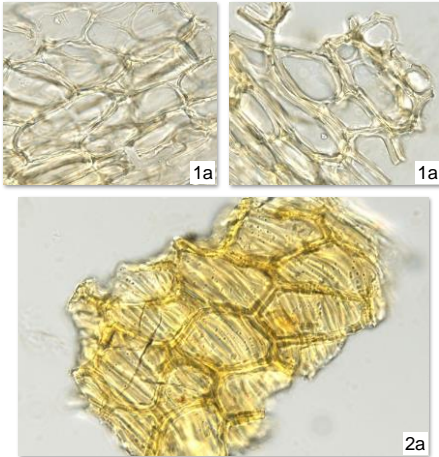
Mostly broken, yellowish-brown, secretory cell appears polygonal

Pericarp

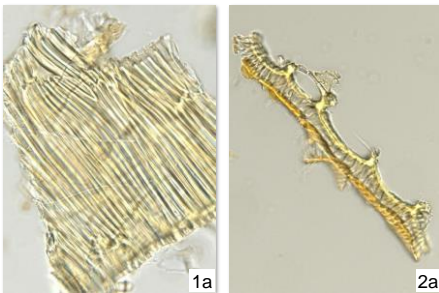
Exocarp cell



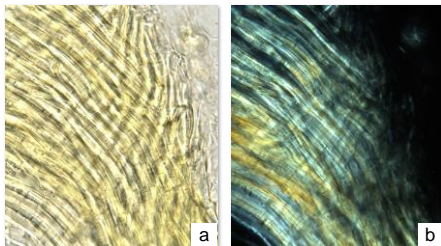
Colourless, appears sub-polygonal (1) in surface view, with slightly thick wall, prism of calcium oxalate and round crystal are sometimes observable, cuticular striations and stoma (2) are occasionally found or barely found

Mesocarp cell

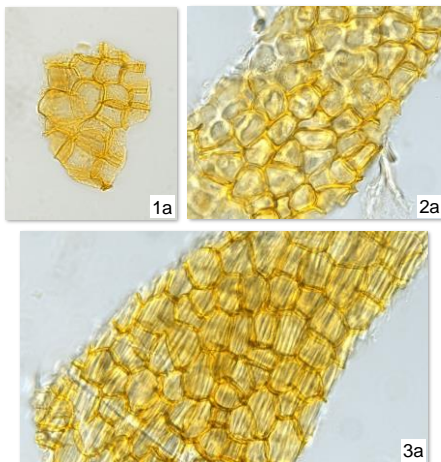
Outer mesocarp cell (1) is light yellowish-brown or colourless, appears sub-rectangular or sub-polygonal in lateral view, with slightly thick or thick wall; inner mesocarp cell (2) is yellowish-brown, cells adhering to endocarp cells appear polygonal or sub-polygonal in surface view, pits and pit canals are observable

Endocarp cell

Yellowish-brown, appears strip-shaped in surface view (1), usually adheres to inner mesocarp cell or testa cell; cells occur in 1 row in lateral view (2), straight on one side, wavy on another side, cellular septum is sometimes observable

Fibre of mesocarp

Usually curved and with multiple layers overlapped, with slightly thick wall, pits and pit canals are distinct; bright white, orange-yellow or polychromatic under polarized light microscope

Testa**Testa cell**

Yellowish-brown, sub-polygonal (1), with thick wall, usually adheres to endosperm cell (2) or endocarp cell (3)

a. features under bright field; b. features under polarized light

50 μ m

Key identification features

Micro-morphology

- Mostly are intact cremocarps which appear spherical or ovoid; a few split into halves as mericarps
- Surface of cremocarp has 10 slightly distinct and sinuous primary ridges alternating with 10 distinct and straight secondary ridges
- Fine reticulate striations with 2 brown and slightly curved vittae on top of them is observable on the commissure of mericarp

Powder microscopy

- Vitta: mostly broken, yellowish-brown, secretory cell appears polygonal
- Exocarp cell: appears sub-polygonal in surface view, prism of calcium oxalate and round crystal are sometimes observable
- Endocarp cell: appears strip-shaped in surface view, usually adheres to mesocarp cell or testa cell

Government Chinese Medicines Testing Institute

Department of Health

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Website: www.cmro.gov.hk

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