



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

Fructus Leonuri*



Source

The dried ripe fruit of *Leonurus heterophyllus* Sweet[#] in the family Labiatae

Property and flavour

Mild cold; pungent and bitter

Meridian affinity

Pericardium and liver meridians

Actions

To circulate blood and regulate menstruation; to clear the liver and brighten the eyes

Note:

* Its name in Chinese Pharmacopoeia (2020 Edition) is “Leonuri Fructus”.

[#] The scientific name of the plant source in Chinese Pharmacopoeia (2020 Edition) is “*Leonurus japonicas* Houtt.”.

Micro-morphological features

Shape

Triangular pyramidal with the acute end pointing down



Relatively broad and flat at the apex

Cuneate at the base

Dorsal view



With 1 protruding longitudinal ridge in the middle of the ventral side

Ventral view

—
0.2 mm

Sub-triangular or fan-shaped in top view



Top view

Slightly protruding on the dorsal side



Lateral view

With sub-triangular or sub-rounded fruit stalk scar at the base

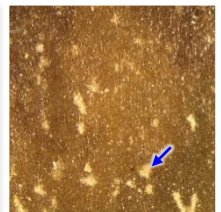
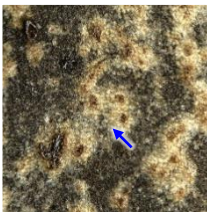


Bottom view

—
0.2 mm

Surface

Blackish-brown, brown or greyish-brown, with protruding maculae (→), which are grey, greyish-brown, brown or blackish-brown, irregularly shaped and unevenly distributed

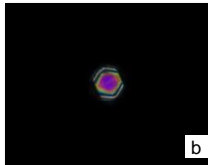


—
0.2 mm

Powder microscopic features

Crystal

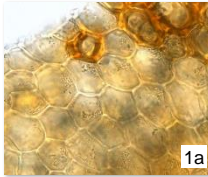
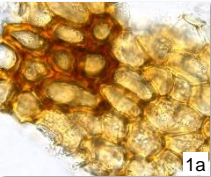
Prism of calcium oxalate



Square, hexagonal or sub-spherical, scattered or present in sclerenchymatous cell of endocarp; polychromatic under polarized light microscope

Pericarp

Exocarp cell

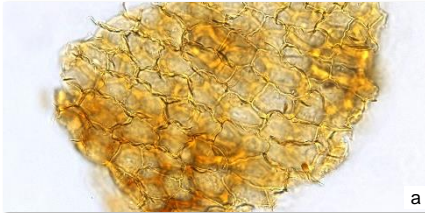


Colourless, light yellow or yellowish-brown, appears polygonal in surface view (1), some cell walls are thickened, yellowish-brown or brown; lateral side (2) is barely found, rectangular, with reticulate pits on cells with thickened walls

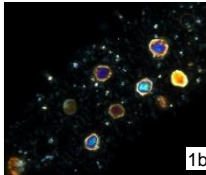
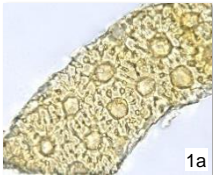


a. features under bright field; b. features under polarized light

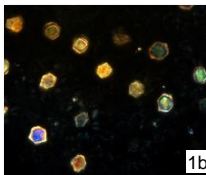
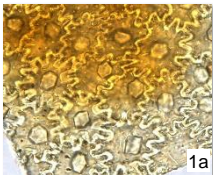
50 μ m

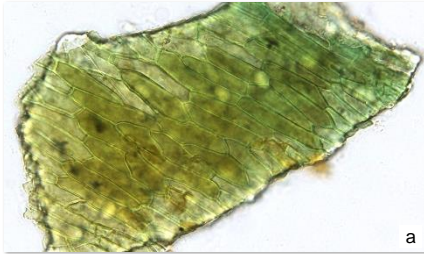
Mesocarp cell

Yellowish-brown or brown, appears polygonal in surface view, anticlinal wall is usually sinuous

Sclerenchymatous cell of endocarp

Light yellow or brownish-yellow, irregularly shaped in surface view (1), with thick or slightly thick wall, anticlinal wall is deeply sinuous, some can be observed with dotted pits; lumen is located on one side in lateral view (2); cell usually contains 1 large prism of calcium oxalate and numerous small crystals of calcium oxalate; prism of calcium oxalate appears polychromatic and sclerenchymatous cell appears white under polarized light microscope



Testa**Epidermal cell of testa**

Light yellow, yellowish-green or yellowish-brown, usually adheres to endosperm cell or sclerenchymatous cell of endocarp, appears polygonal in surface view, anticlinal wall is sometimes beaded, some with indistinct cell boundaries

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

50 μ m

Key identification features

Micro-morphology

- ⊙ Triangular pyramidal with the acute end pointing down
- ⊙ With irregularly shaped and unevenly distributed maculae on the surface

Powder microscopy

- ⊙ Exocarp cell: appears sub-polygonal in surface view, scattered with sclerenchymatous cell
- ⊙ Sclerenchymatous cell of endocarp: irregularly shaped in surface view, usually contains prism of calcium oxalate

For more information, please refer to [website of the Hong Kong Chinese Materia Medica Standards](#):

Leonuri Fructus — HKCMMS (Vol 10)

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