



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



1 cm

# Perillae Fructus

## Source

The dried ripe fruit of *Perilla frutescens* (L.) Britt. in the family Labiatae

## Property and flavour

Warm; pungent

## Meridian affinity

Lung meridian

## Actions

To make qi descend and transform phlegm; to stop coughing and alleviate panting; to moisten the intestine and promote bowel movements

## Micro-morphological features

Shape

Sub-ovoid or sub-spherical



0.5 mm



Dorsal view



Ventral view

With sub-elliptical bearing surface at the base, usually located towards the ventral side

0.5 mm



Lateral view

With protruding or slightly protruding fruit stalk in the centre of the bearing surface

Usually appears sub-triangular in bottom view



With 1 ridge beside the fruit stalk

Bottom view

0.5 mm

## Surface

Brown or yellowish-brown, some have greyish-white membranous substances (→) on the surface, reticulate striations are dark purple or brown



0.5 mm

Bearing surface is greyish-white or yellowish-brown, without reticulate striations, with white short linear or dotted protuberances (→) on the edge



0.5 mm

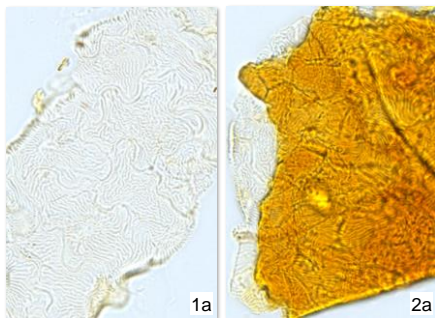
## Odour

With aroma when crushed

## Powder microscopic features

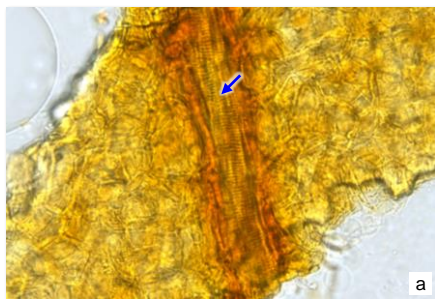
### Pericarp

#### Exocarp cell



Colourless or light yellow, appears irregular or sub-polygonal in surface view, with slightly curved anticlinal wall, with sinuous cuticular striations (1) on the surface, usually adheres to mesocarp cell; some cell boundaries are indistinct (2)

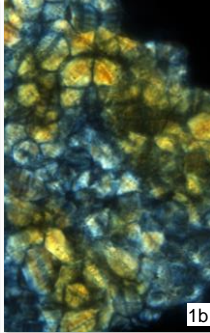
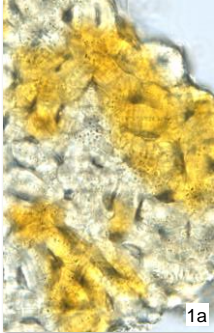
#### Mesocarp cell



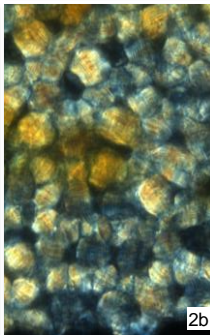
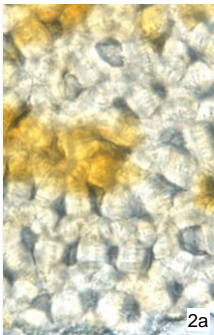
Yellowish-brown or reddish-brown, sub-polygonal or sub-rounded, frequently observable with the distribution of vessels (→), cells beside the vessels are darker in colour

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

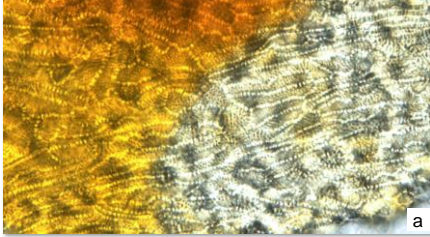
50 μm

**Stone cell of endocarp**

Present in groups, appears sub-polygonal or irregular in surface view, with pit canals and pits (1), some can be observed with striations (2); bright white or orange-yellow under polarized light microscope



### Inner epidermal cell of pericarp



Appears long strip-shaped or irregular in surface view, wall is slightly thick, beaded, with dense pits

## Testa

### Epidermal cell of testa



Colourless or light yellow, appears elliptical or sub-polygonal in surface view, mostly separated (1), a few are present in groups (2); with reticulate thickening, usually adheres to sub-square or sub-polygonal parenchymatous cell



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

50  $\mu$ m

## Key identification features

### Micro-morphology

- ⊙ Sub-ovoid or sub-spherical
- ⊙ Bearing surface at the base is usually located towards the ventral side
- ⊙ With dark purple or brown reticulate striations on the surface

### Powder microscopy

- ⊙ Stone cell of endocarp: present in groups, appears sub-polygonal or irregular in surface view
- ⊙ Inner epidermal cell of pericarp: appears long strip-shaped or irregular in surface view, wall has dense pits
- ⊙ Epidermal cell of testa: mostly separated, with reticulate thickening

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