



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

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

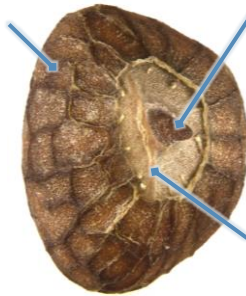
0.5 mm



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

Surface

Brown or yellowish-brown, sometimes 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

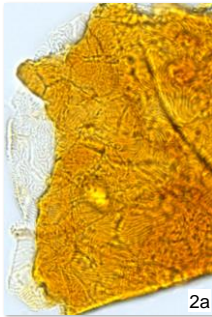
Odour

With aroma when crushed

Powder microscopic features

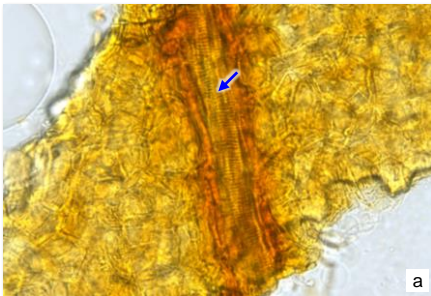
Pericarp

Exocarp cell



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

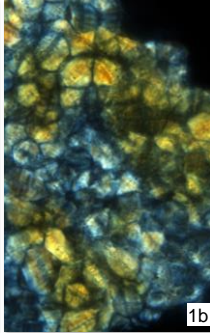
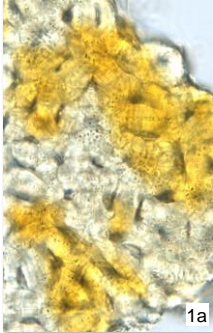
Mesocarp cell



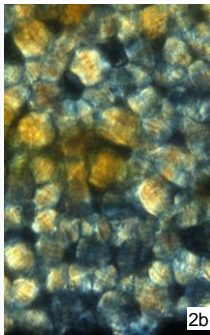
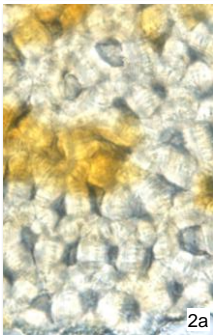
Yellowish-brown or reddish-brown, sub-polygonal or sub-rounded, usually with the distribution of vessels (→), cells beside the vessels are darker in colour

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

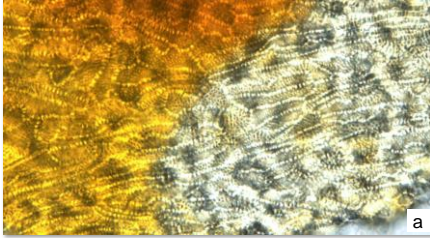
50 μm

Stone cell of endocarp

Present in groups, appears sub-polygonal or irregular in surface view, with pit canals and pits (1), some 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, usually separated (1), occasionally 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 µm

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: usually separated, with reticulate thickening

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