Luffae Fructus Retinervus
versus
Luffae Acutangula Fructus Retinervus

Source

Luffae Fructus Retinervus
is the dried vascular bundles of ripe fruit of
Luffa cylindrica (L.) Roem.
in the family Cucurbitaceae

Luffae Acutangula Fructus Retinervus
is the dried ripe fruit of
Luffa acutangula (L.) Roem.
in the family Cucurbitaceae

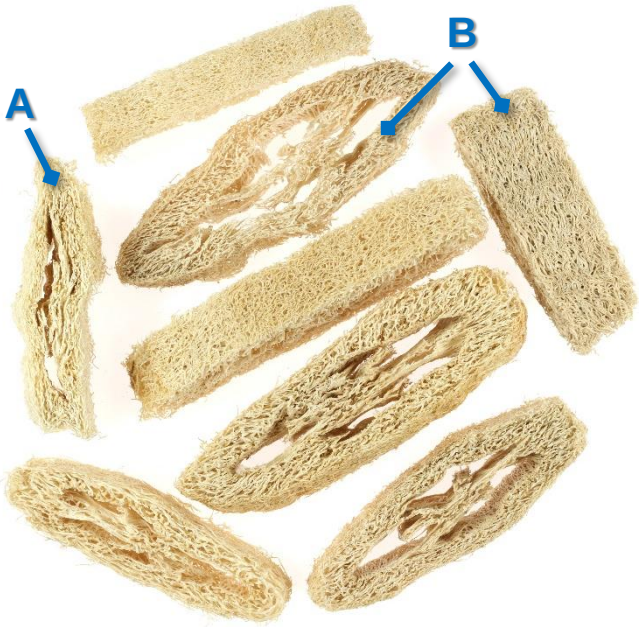
Overview

Both Luffae Fructus Retinervus and Luffae Acutangula Fructus Retinervus have not yet been recorded in Schedule 2 of the Chinese Medicine Ordinance, and only Luffae Fructus Retinervus has been listed in the Chinese Pharmacopoeia (2020). According to the *Chinese Materia Medica Standards in Guangdong Province*, Guangdong province used Luffae Acutangula Fructus Retinervus by tradition, while most parts of the country used Luffae Fructus Retinervus. Despite being similar in names, the medicinal part of these two Chinese Materia Medica (CMM) differs slightly, where Luffae Fructus Retinervus only uses vascular bundles, Luffae Acutangula Fructus Retinervus also uses the peel and flesh of the fruit. According to the Chinese Pharmacopoeia, Luffae Fructus Retinervus can dispel wind, free the collateral vessels, activate blood and promote lactation; while according to the *Chinese Materia Medica Standards in Guangdong Province*, Luffae Acutangula Fructus Retinervus can clear dampness fire and free the collateral vessels. As the two CMM differ, they should be used accordingly.

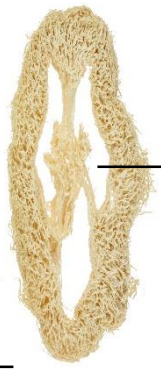
Key identification features

Macroscopic features of Luffae Fructus Retinervus decoction pieces

◆ Reticulate pieces formed by interweaved vascular bundles. Cut surface appears oblong or irregular



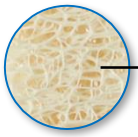
1 cm



1 cm

Ovary which mainly has 3 loculi appearing hollow is observable in transverse section

Yellowish-white outer surface



Whitish inner surface

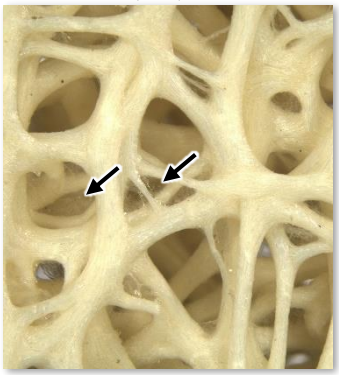
Micro-morphological features

A: With interlacing yellowish-white or whitish vascular bundles observable

(Cut surface) 1 mm

B: Outer surface is yellowish-white and relatively dense in arrangement; inner surface is whitish. Both sides have fewer transparent membrane(→)

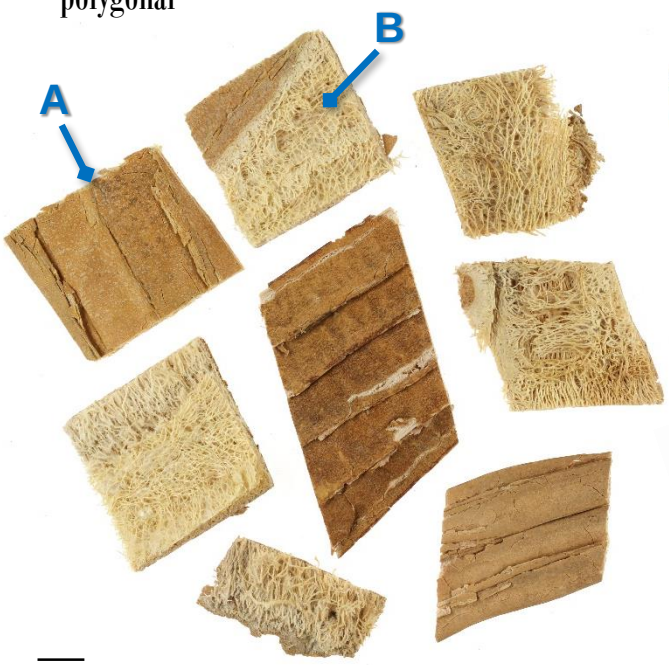
(Outer surface of the vascular bundles) 1 mm

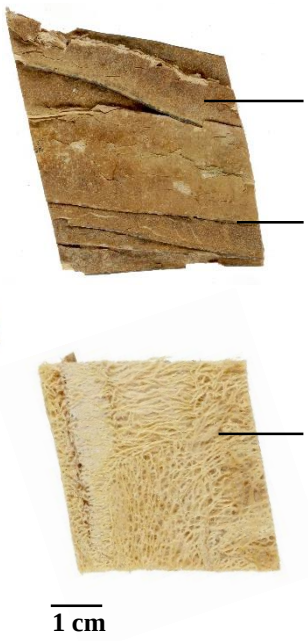


(Inner surface of the vascular bundles) 1 mm

Macroscopic features of Luffae Acutangula Fructus Retinervus decoction pieces

◆ Flat reticulate pieces appear square, rectangular or polygonal



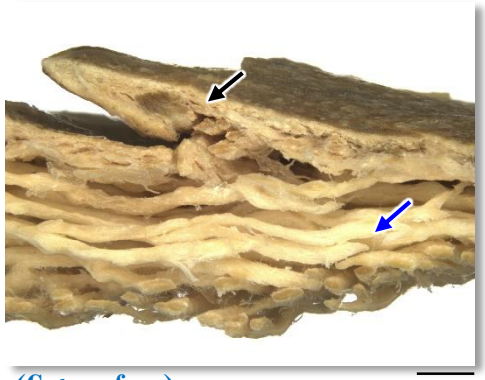


Outer surface is dark brown, greyish-brown or brownish-yellow exocarp
With pressed ridges

Inner surface is yellowish-white or yellowish-brown vascular bundles which interweaved to form reticulation

Micro-morphological features

A: Exocarp with ridges(→) and interlacing yellowish-white vascular bundles(→) are observable

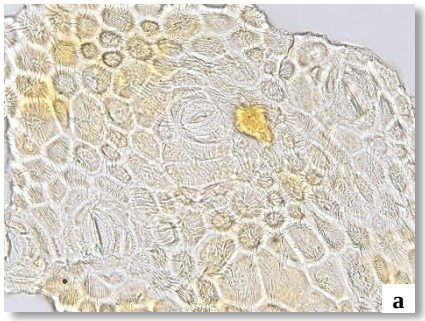
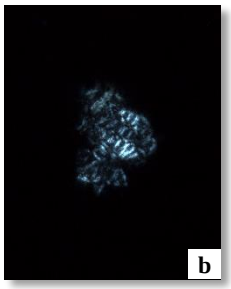
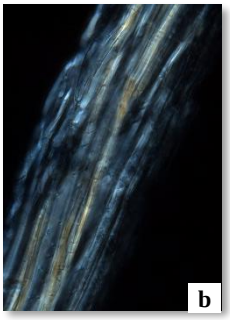


(Cut surface)

B: Yellowish-white, with more transparent membrane(→)

(Inner surface of the vascular bundles)

Microscopic feature comparison of Luffae Fructus Retinervus decoction pieces and Luffae Acutangula Fructus Retinervus decoction pieces powder

	Luffae Fructus Retinervus decoction pieces	Luffae Acutangula Fructus Retinervus decoction pieces
Epidermal cell of exocarp	Absent	 a Sub-polygonal, with irregular sinuous cuticular striations on surface, with anomocytic stomata sometimes observable
Stone cell of exocarp	Absent	 a  b Light yellow, sub-square, sub-rounded or sub-polygonal, pit canals distinct, usually presents in groups; bright white or bright yellow under the polarized light microscope
Fibre	 a  b Numerous, singly scattered or in bundles, sometimes forked at the ends, some with oblique pits and pit canals; bright white or bright yellowish-white or polychromatic under the polarized light microscope	 a  b Observable, singly scattered or in bundles, sometimes forked at the ends, some with oblique pits and pit canals; bright white or bright yellowish-white or polychromatic under the polarized light microscope

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

50 μm

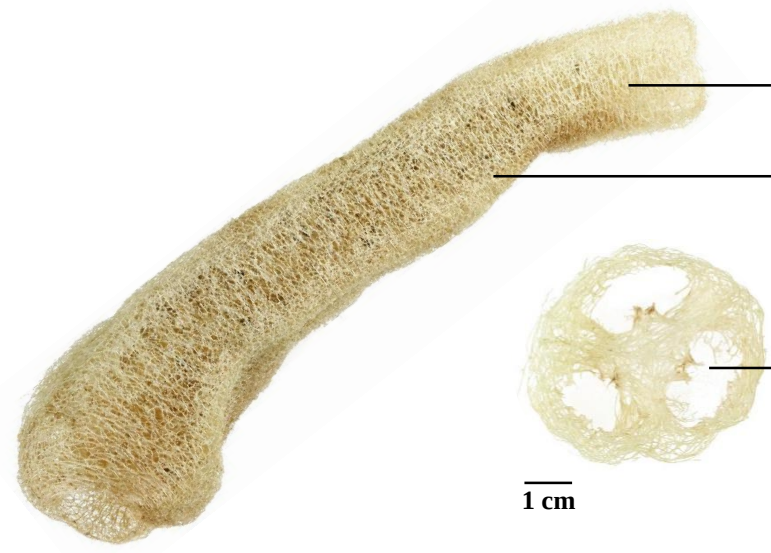
Summary

Major differences in the features between Luffae Fructus Retinervus decoction pieces and Luffae Acutangula Fructus Retinervus decoction pieces:

		Luffae Fructus Retinervus decoction pieces	Luffae Acutangula Fructus Retinervus decoction pieces
Macroscopic and micro-morphological features	**Appearance**	Reticulate pieces with oblong or irregular cut surface	Flat reticulate pieces appear square, rectangular or polygonal
	Exocarp	Absent	Present
	Inner surface	With fewer transparent membrane	With more transparent membrane
Microscopic features	**Epidermal cell of exocarp**	Absent	Present
	Stone cell of exocarp	Absent	Present
	Fibre	Numerous	Observable

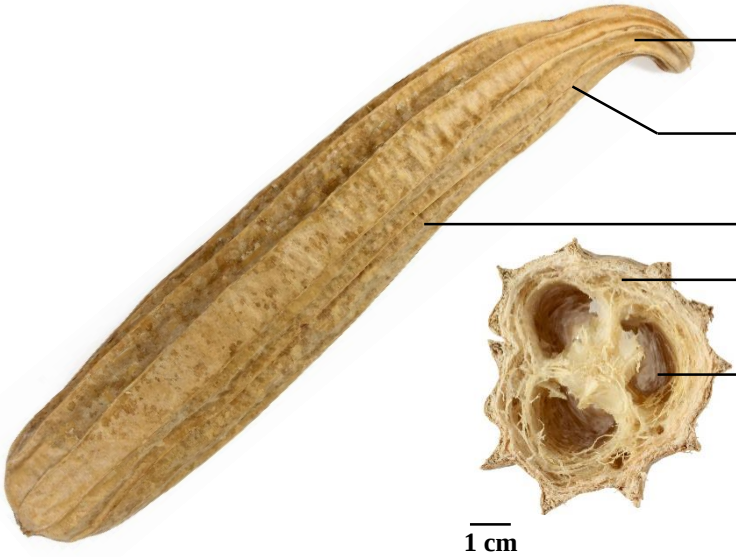
Additional information

Photo of crude Luffae Fructus Retinervus



- Formed by interweaved filiform vascular bundles
- Mostly appears long fusiform or long cylindrical, slightly curved, 30-70 cm long, 7-10 cm in diameter
- Yellowish-white surface
- Ovary which has 3 loculi appearing hollow is observable in transverse section
- Light, tough, springy, cannot be broken
- Slight odour and weak taste

Photo of crude Luffae Acutangula Fructus Retinervus



- Appears club-shaped or cylindrical, slightly curved, 15-60 cm long, 5-10 cm in diameter at the wider part of the lower end
- Gradually thinner when closer to the end with fruit stalk, with 8-10 sharp ridges and grooves on the surface
- Greyish-yellow or light brownish-yellow pericarp
- Inner side of the pericarp is formed by interweaved yellowish-white filiform vascular bundles
- Ovary which has 3 loculi appearing hollow is observable in fracture. Remained black seed is sometimes observable
- Light, tough, springy, not easily broken
- Slight odour and weak or bitter taste

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