Canarii Fructus
versus
Chebulae Fructus Immaturus

Source

Canarii Fructus
is the dried ripe fruit of
Canarium album Raeusch.
in the famly Burseraceae

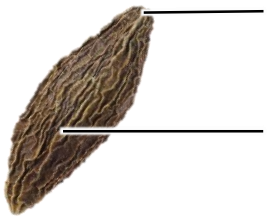
Chebulae Fructus Immaturus
is the dried young fruit of
Terminalia chebula Retz.
in the family Combretaceae

Overview

Canarii Fructus and Chebulae Fructus Immaturus are both listed in the Chinese Pharmacopoeia (2020) but neither are listed in the Schedules of the Chinese Medicine Ordinance. According to the research by *Zhong hua ben cao*, after the fruit from *Canarium album* matures, its colour remains to be green, thus, it is named as "*Qing guo*" (The green fruit). The Chinese Pharmacopoeia states that Canarii Fructus can clear hear and detoxify, soothe the throat and engender fluid; while Chebulae Fructus Immaturus can clear heat and engender fluid and detoxify. Despite their Chinese names differ only by one word, these two Chinese Materia Medica differ in the source and functions, thus they should be used accordingly.

Key identification features

Macroscopic features of Canarii Fructus



Fusiform, with both ends slightly pointed

Brownish-yellow or blackish-brown surface with irregular wrinkles

1 cm

Greyish-brown to light brown sarcocarp

With 3 loculi observable at the cut surface of kernel. Each loculus has 1 seed or none

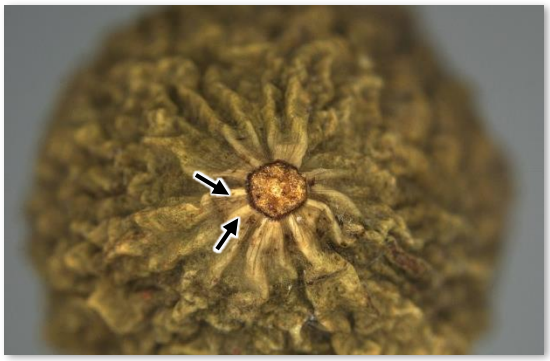
5 mm

Dark reddish-brown to brown fusiform kernel with longitudinal ridges

5 mm

Micro-morphological feature

A: With 6 or above wrinkles at the surrounding of fruit stalk scar and arranged radially



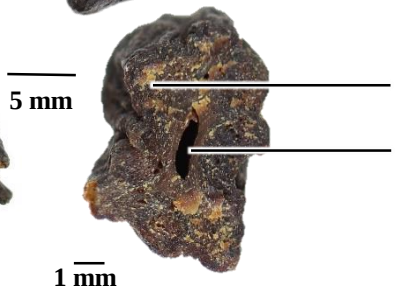
(Surface of the base)

2 mm

Macroscopic features of Chebulae Fructus Immaturus

Ovate, fusiform or long strip-shaped, and slightly flat. One end relatively large, while the other end slightly small and slightly pointed

Blackish-brown surface with significant longitudinal wrinkles



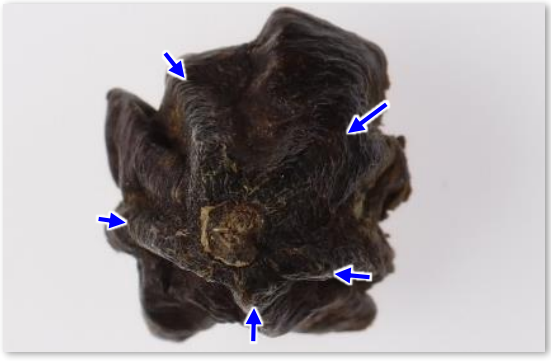
Brown sarcocarp with horny luster

Usually hollow at the cut surface of kernel. Smaller one is blackish-brown and not hollow

Kernel is difficult to separate with sarcocarp. Separated kernel appears fusiform

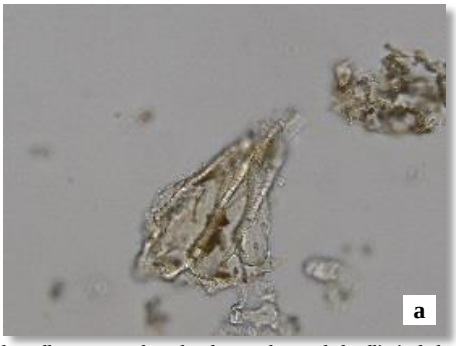
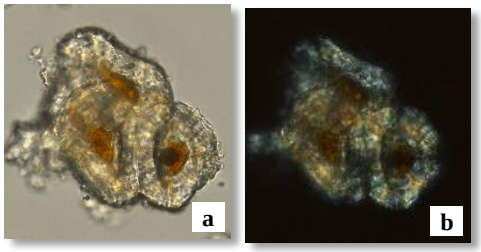
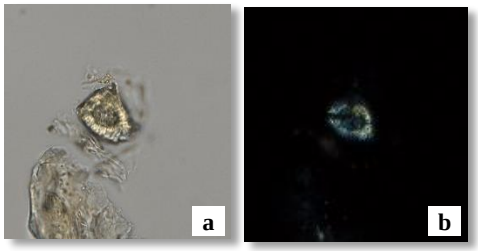
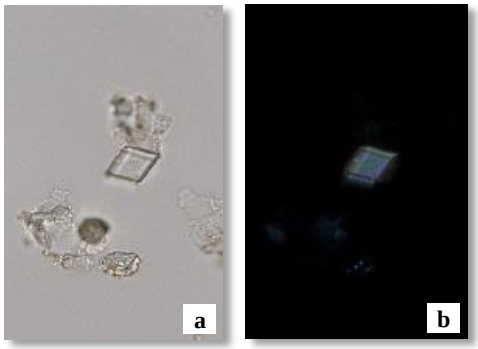
Micro-morphological feature

A: Only 5-6 longitudinal ridges at the surrounding of fruit stalk scar



(Surface of the base)

Microscopic feature comparison of Canarii Fructus and Chebulae Fructus Immaturus powder

	Canarii Fructus	Chebulae Fructus Immaturus
Lignified cell	Absent	 Light yellow or nearly colourless, sub-rounded, elliptical, long strip-shaped or irregular, some with one end swell to form boot-shaped, pits distinct
Stone cell	 Frequently found, several tightly arranged or singly scattered, fusiform, sub-rectangular or irregular, thick wall, fine and dense pit canals, some distinct pits; bright white, polychromatic or orange-yellow under the polarized light microscope	 Occasionally found, sub-triangular or sub-rounded, with pit canals; bright white or yellow under the polarized light microscope
Prism of calcium oxalate	 Singly scattered or present in parenchymatous cells; bright white, polychromatic or orange-yellow under the polarized light microscope	Absent

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

50 μm

Summary

Major differences in the features between Canarii Fructus and Chebulae Fructus Immaturus:

		Canarii Fructus	Chebulae Fructus Immaturus
Macroscopic and micro-morphological features	**Appearance**	Fusiform, with both ends slightly pointed	Ovate, fusiform or long strip-shaped, and slightly flat. One end relatively large, while the other end slightly small and slightly pointed
	Surface	Brownish-yellow or blackish-brown	Blackish-brown
	Surface of the base	With 6 or above wrinkles at the surrounding of fruit stalk scar and arranged radially	Only 5-6 longitudinal ridges at the surrounding of fruit stalk scar
Microscopic features	**Lignified cell**	Absent	Present
	Stone cell	Frequently found	Occasionally found
	Prism of calcium oxalate	Present	Absent

Department of Health

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