

Fructus Corni versus Processed Jujubae Fructus



Source

***Fructus Corni**
is the dried ripe sarcocarp of
Cornus officinalis Sieb. et Zucc.
in the family Cornaceae

Processed Jujubae Fructus
is the dried and processed ripe fruit of
Ziziphus jujuba Mill.
in the family Rhamnaceae

Overview

The Chinese Materia Medica (CMM) Fructus Corni is listed in both the Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020), while Processed Jujubae Fructus is a regional specification of the decoction pieces. According to *Zhong hua ben cao*, Fructus Corni has various names with “Zao” since ancient times, for example, “Shu zao”, “Rou zao”, “Yao zao”. Furthermore, as the shape and colour of the fruits are similar to those of small-sized Jujubae Fructus, which may cause confusion. According to the Chinese Pharmacopoeia, Fructus Corni can tonify and replenish the liver and kidney, astringent and secure collapsing; while Processed Jujubae Fructus can replenish the middle and boost qi, and nourish blood and tranquilize. As the functions of these two CMM varies, they should be used accordingly.

Note:

*Its name in the Chinese Pharmacopoeia (2020) is “Corni Fructus”.

Key identification features

Macroscopic features of Fructus Corni



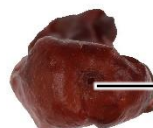
- ◆ Irregular slices or sacciform
- ◆ Surface is red or deep red, shriveled and lustrous



1 cm



With rounded scar of persistent calyx observable at some apices



With fruit stalk scar at the base

5 mm

- ◆ Soft

- ◆ Slight odour. Sour, astringent and slightly bitter taste

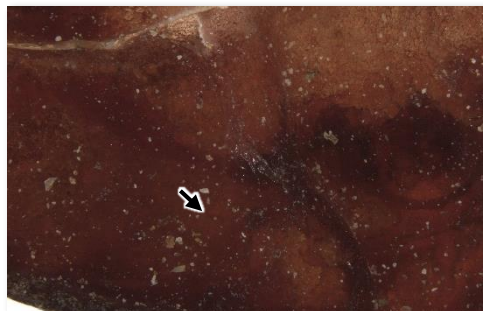
Micro-morphological feature

A: With bright white crystal-like dots(→)[#] observable



(Outer surface of relatively fresh sample)

2 mm



(Outer surface of relatively old sample)

2 mm

Note:

[#]The amount is related to the length of storage time of the decoction pieces.

Macroscopic features of Processed Jujubae Fructus decoction pieces



- ◆ Elliptical, obtuse at both ends



1 cm



Outer surface is dark red, slightly lustrous and has irregular wrinkles



Inner surface is brownish-yellow or light brown



Hollow

1 cm

- ◆ Soft and oily
- ◆ Sweet taste

Micro-morphological feature

A: With numerous dark yellow dots(→) observable


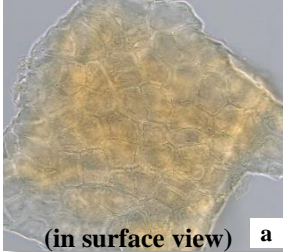
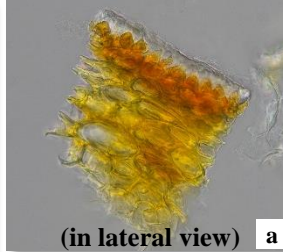
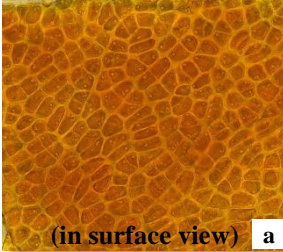
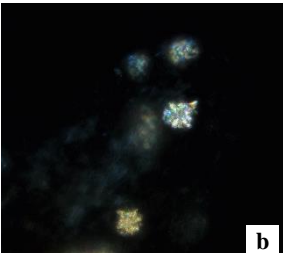
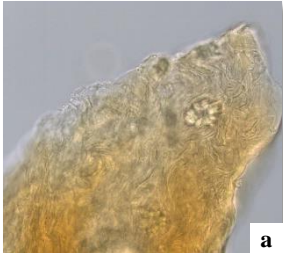
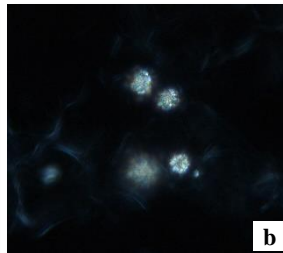
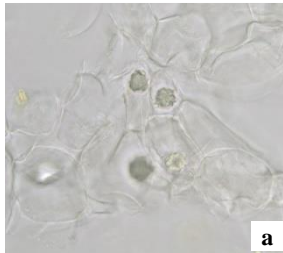
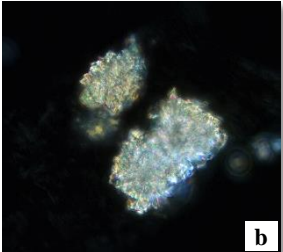
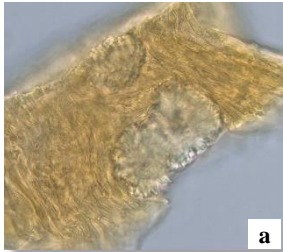
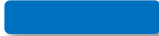


(Outer surface)

1 mm

Microscopic feature comparison of Fructus Corni and Processed Jujubae Fructus decoction pieces powder



	Fructus Corni	Processed Jujubae Fructus decoction pieces
Exocarp cell	<div></div> <p>Colourless or light orange-yellow. Appears polygonal or sub-rectangular in surface view, slightly beaded-thickened anticlinal wall, cuticle granularly thickened on outer wall; appears rectangular in lateral view, cuticle slightly thickened</p>	<div></div> <p>Yellowish-brown or orange-yellow. Appears polygonal, sub-square or rectangular in surface view, smooth and slightly thickened wall, lumen filled with reddish-brown substances and with several rounded or sub-square granular substances frequently found; appears sub-rounded or sub-oblong in lateral view, cuticle slightly thickened</p>
Mesocarp cell	<div></div> <p>Orange-brown, mostly shriveled, indistinct boundary, some contain inulin, clusters or prisms of calcium oxalate</p>	<div></div> <p>Colourless, sub-rounded or sub-polygonal, with large intercellular space observable sometimes, some contain clusters or prisms of calcium oxalate</p>
Inulin %	<div></div> <p>Sub-rounded or elliptical, present in pericarp cell, with fan-shaped striations on the surface; polychromatic under the polarized light microscope</p>	<div></div> <p>Absent</p>

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

50 μm

Note:
%Prepare the slide by adding chloral hydrate test solution without heating and observe.

Summary

Major differences in the features between Fructus Corni and Processed Jujubae Fructus decoction pieces:

		Fructus Corni	Processed Jujubae Fructus decoction pieces
Macroscopic and micro-morphological features	Appearance	Irregular slices or sacciform	Elliptical, obtuse at both ends
	Taste	Sour, astringent and slightly bitter	Sweet
	Outer surface	With bright white crystal-like dots observable	With numerous dark yellow dots observable
Microscopic features	Exocarp cell	Lighter in colour	Darker in colour
	Mesocarp cell	Indistinct cell boundary	Distinct cell appearance
	Inulin	Present	Absent

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



Corni Fructus - Hong Kong Chinese Materia Medica Standards (Volume 4)

Additional information

Photo of crude Jujubae Fructus



- ◆ Appears elliptical or spherical, 2-3.5 cm long and 1.5-2.5 cm in diameter

Surface is dark red, slightly lustrous and has irregular wrinkles



Base is dented and has short fruit stalk



Exocarp is thin. Mesocarp is brownish-yellow or light brown, fleshy, soft, sugary and oily

1 cm



Kernel is fusiform, pointed at both ends and hard

1 cm

- ◆ Slight aroma and sweet taste



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