

Fructus Evodiae versus Fructus Corni



Source

*Fructus Evodiae

is the dried almost ripe fruit of
Evodia rutaecarpa (Juss.) Benth.,

E. rutaecarpa (Juss.) Benth. var. *officinalis* (Dode) Huang or

E. rutaecarpa (Juss.) Benth. var. *bodinieri* (Dode) Huang
in the family Rutaceae

Fructus Corni[#]

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

Overview

Both Fructus Evodiae and Fructus Corni are Chinese Materia Medica (CMM) listed in Schedule 2 of the Chinese Medicine Ordinance and the Chinese Pharmacopoeia (2020). According to the research from *Zhong hua ben cao*, Fructus Evodiae is shorter than its related species and is described as "in the form of a dwarf (*Zhu yu*)". Furthermore, the CMM in "Wu" region was claimed to be better, and thus further named as "*Wu zhu yu*". On the other hand, the reason behind the naming of Fructus Corni is unknown, as stated in *Ben cao yan yi*, "Fructus Corni varies greatly from Fructus Evodiae...it is unknown why it was so called". In addition, a picture of *Cornus officinalis* appeared under the entry of "*Wu zhu yu*" in a Song Dynasty literature, *Ben cao tu jing*, which causes confusion altogether. According to the Chinese Pharmacopoeia, the main function of Fructus Evodiae is to dissipate cold and relieve pain, while the main function of Fructus Corni is to tonify and replenish the liver and kidney. As these two CMM have different functions, they should be used accordingly.

Note:

*Its name in the Chinese Pharmacopoeia (2020) is "Euodiae Fructus".

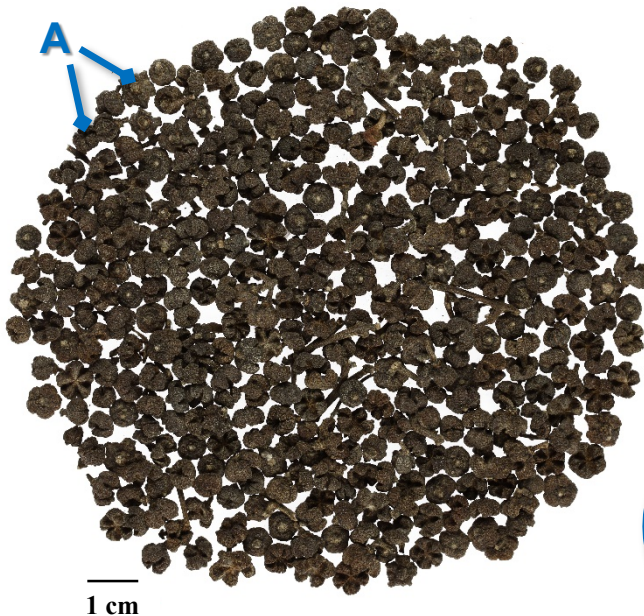
[#]Its name in the Chinese Pharmacopoeia (2020) is "Corni Fructus".

Key identification features

Macroscopic features of Fructus Evodiae

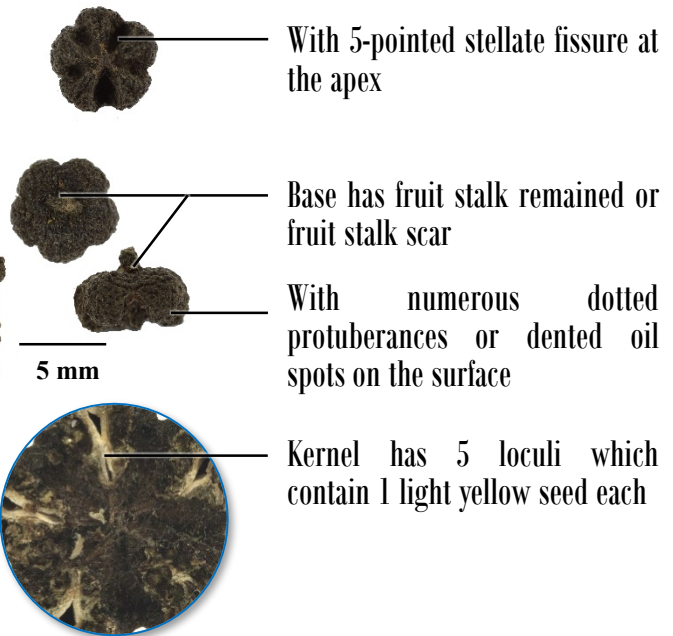


- ◆ Spherical or slightly pentagonal-oblate
- ◆ Surface is dark yellowish-green or brown and rough



1 cm

- ◆ Hard and fragile
- ◆ Strong aroma. Pungent and bitter taste



With 5-pointed stellate fissure at the apex

Base has fruit stalk remained or fruit stalk scar

With numerous dotted protuberances or dented oil spots on the surface

Kernel has 5 loculi which contain 1 light yellow seed each

Micro-morphological features

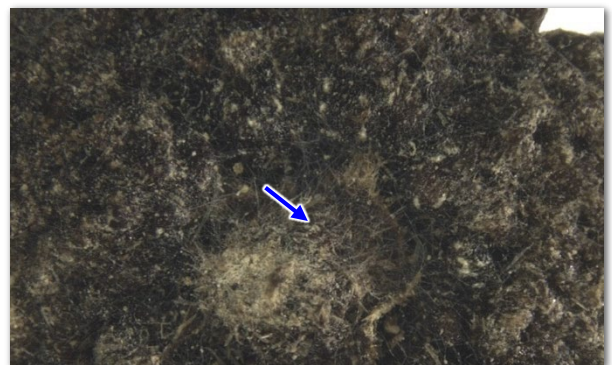
A1: With pubescences observable in the 5-pointed stellate fissure

A2: Remained fruit stalk or surrounding of fruit stalk scar is covered with yellow pubescences



(Apex)

500 μm



(Base)

500 μm

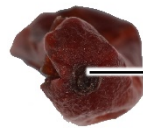
Macroscopic features of Fructus Corni



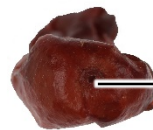
- ◆ Irregular slices or sacciform
- ◆ Surface is red or deep red, shriveled and lustrous



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 features

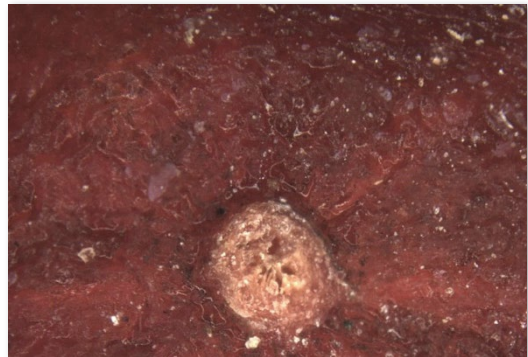
A1: Glabrous at the surrounding of the scar of persistent calyx



(Apex)

500 μ m

A2: Glabrous at the surrounding of the fruit stalk scar

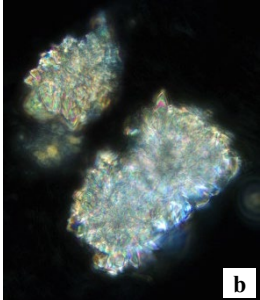
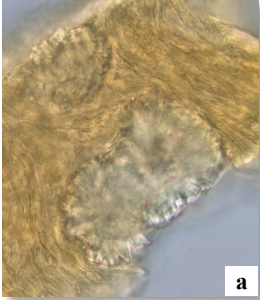

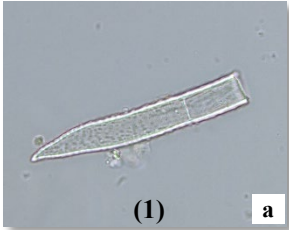



(Base)

500 μ m

Microscopic feature comparison of Fructus Evodiae and Fructus Corni powder



	Fructus Evodiae	Fructus Corni
Inulin %	<div></div> <p>Absent</p>	<div><div></div><p>Sub-rounded or elliptical, present in mesocarp cell, with fan-shaped striations on the surface; polychromatic under the polarized light microscope</p></div>
Non-glandular hair	<div><div></div><p>Frequently found, consists of 2-6 cells, unicellular occasionally , with distinct warty protuberances on the wall(1), some lumina contain brownish-red substance(2)</p></div>	<div></div> <p>Absent</p>
Glandular hair	<div><div></div><p>Head consists of 6-18 cells, elliptical, usually contains yellowish-brown substance; stalk consists of 2-5 cells</p></div>	<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 Evodiae and Fructus Corni:

		Fructus Evodiae	Fructus Corni
Macroscopic and micro-morphological features	Appearance	Spherical or slightly pentagonal-oblate	Irregular slices or sacciform
	Surface	Rough, with numerous dotted protuberances or dented oil spots	Shriveled and lustrous
	Apex	With pubescences observable in the 5-pointed stellate fissure	Glabrous at the surrounding of the scar of persistent calyx
Microscopic features	Inulin	Absent	Present
	Non-glandular hair	Present	Absent
	Glandular hair	Present	Absent

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



Fructus Evodiae - Hong Kong Chinese Materia Medica Standards (Volume 3)
Corni Fructus - Hong Kong Chinese Materia Medica Standards (Volume 4)



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