

Semen Vaccariae

versus

Fructus Fici Pumilae



1 cm



1 cm

Source

***Semen Vaccariae**
is the dried ripe seed of
Vaccaria segetalis (Neck.) Garcke
in the family Caryophyllaceae

Fructus Fici Pumilae
is the dried collective fruit of
Ficus pumila L.
in the family Moraceae

Overview

Semen Vaccariae is a Chinese Materia Medica (CMM) listed under Schedule 2 of the Chinese Medicine Ordinance (CMO) and in the Chinese Pharmacopoeia (2020). According to the research by *Zhong hua ben cao*, “this CMM has a wandering property and tends not to stay, akin to the scenario where it will not stop even by the emperor’s order”, and thus is named “*Wang bu liu xing*”. By its name, this CMM exert functions of activating blood to unblock the meridian, promoting lactation to disperse swelling and promoting diuresis to relieve strangury, according to the Chinese Pharmacopoeia. On the other hand, Fructus Fici Pumilae is only listed under Schedule 2 of the CMO. According to the *Chinese Materia Medica Standards in Guangdong Province*, Fructus Fici Pumilae is named “*Guang dong wang bu liu xing*”, and it is only commonly used in the Guangdong areas. Its functions include: dispelling wind and draining dampness, as well as activating blood for detoxification. As there are marked differences in the functions between the two CMM, they should be used in accordance with their properties.

Note:

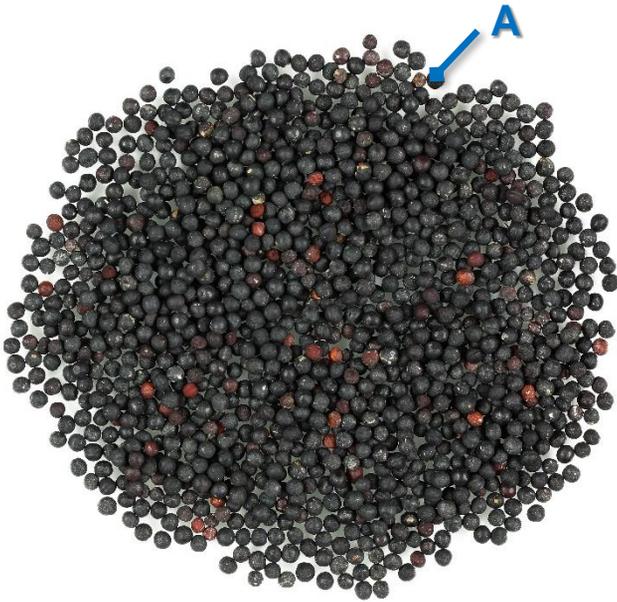
*Its name in the Chinese Pharmacopoeia (2020) is “Vaccariae Semen”.

Key identification features

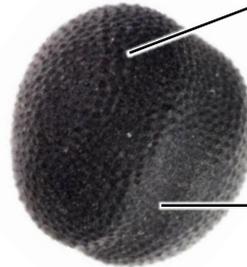
Macroscopic features of Semen Vaccariae



◆ Spherical



5 mm



Surface is black, a few reddish-brown, slightly lustrous and has fine and dense granular protuberances

With 1 sunken longitudinal groove on one side



The embryo curved like a ring in the longitudinal section

0.5 mm

◆ Hard

Micro-morphological feature

A: Slightly lustrous, with fine and dense granular protuberances



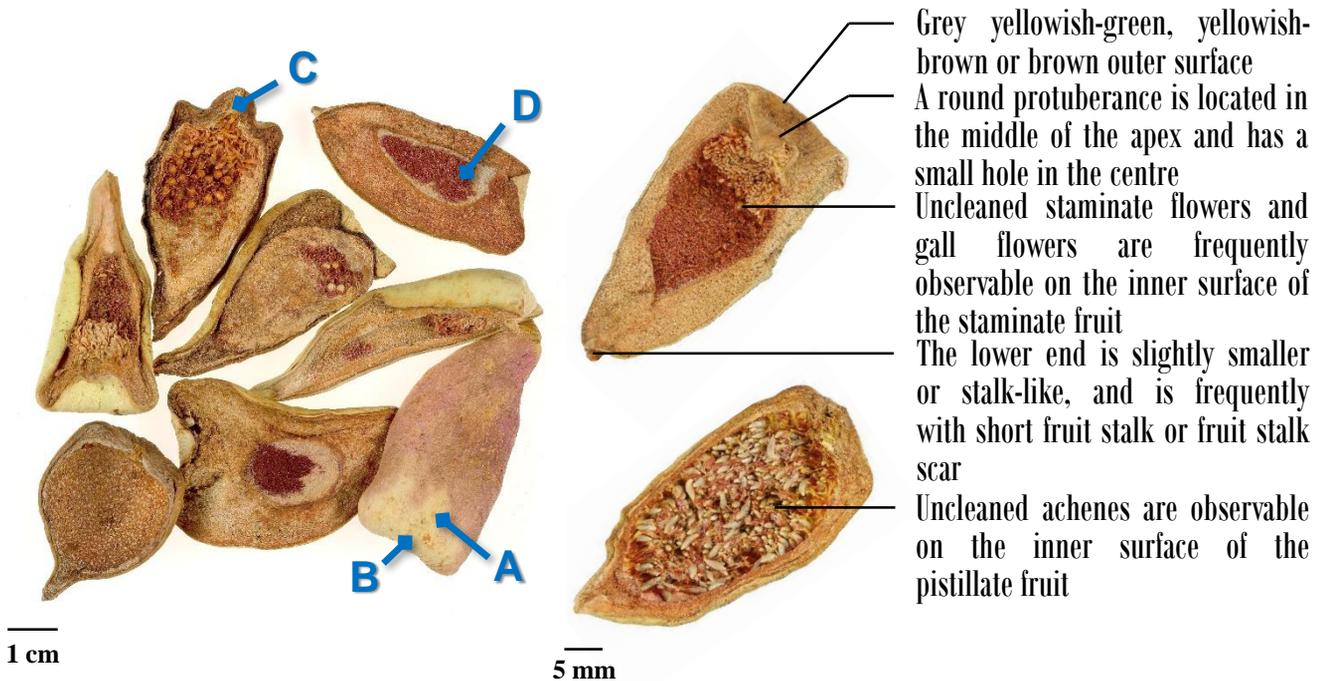
(Surface)

500 μm

Macroscopic features of Fructus Fici Pumilae



- ◆ Mostly cut into valves by longitudinal sectioning. Interior appears as pouch-shape or trough-shape
- ◆ Obovate-conic, long-elliptical or elliptical



Grey yellowish-green, yellowish-brown or brown outer surface
 A round protuberance is located in the middle of the apex and has a small hole in the centre
 Uncleaned staminate flowers and gall flowers are frequently observable on the inner surface of the staminate fruit
 The lower end is slightly smaller or stalk-like, and is frequently with short fruit stalk or fruit stalk scar
 Uncleaned achenes are observable on the inner surface of the pistillate fruit

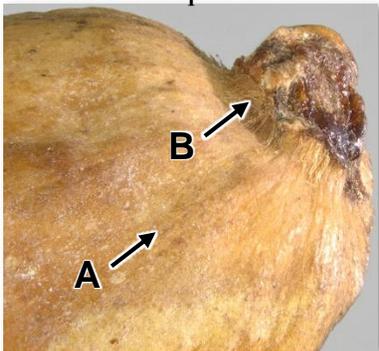
- ◆ Light, hard and fragile, easily broken

Micro-morphological features

A: Relatively smooth
 B: Fine and dense villi(→) are frequently observed at the outside of the apical small hole

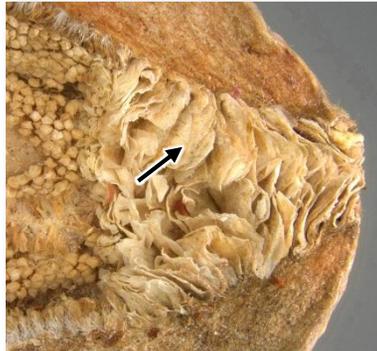
C: The interior of the apical small hole is filled with membranous bracteoles(→)

D: Numerous remained white pubescence are frequently observable



(Outer surface)

2 mm



(Inner surface)

2 mm

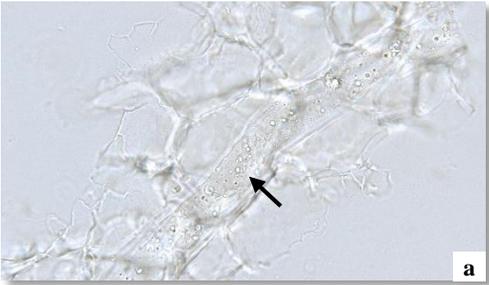
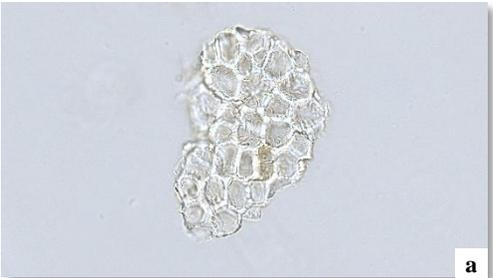
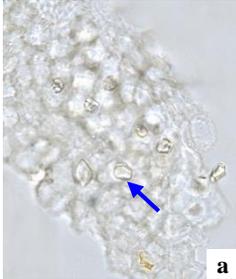
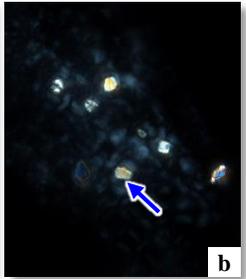


(Inner surface)

1 mm

Microscopic feature comparison of Semen Vaccariae and Fructus Fici Pumilae powder



	Semen Vaccariae	Fructus Fici Pumilae
Secretory tissue	 Absent	 <p>Laticifer (→) long strip-shaped, present in parenchyma, containing colourless or yellow, droplet-like, granular or glomerate secretions</p>
Protective tissue	 <p>Epidermal cell of testa reddish-brown or yellowish-brown, sub-polygonal in surface view, anticlinal wall thickened, stellate or deeply sinuous</p>	 <p>Epidermal cell of receptacle colourless or light yellowish-brown, sub-rounded or sub-polygonal in surface view, anticlinal wall slightly thick, covered with thick cuticle</p>
Crystal of calcium oxalate	 Absent	  <p>Prism of calcium oxalate (→) usually found in groups in the parenchymatous cell located under the epidermis of receptacle; polychromatic under the polarized light microscope</p>

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

50 μm

Summary

Major differences in the features between Semen Vaccariae and Fructus Fici Pumilae:

		Semen Vaccariae	Fructus Fici Pumilae
Macroscopic and micro-morphological features	Appearance	Spherical	Mostly cut into valves by longitudinal sectioning, obovate-conic, long-elliptical or elliptical
	Surface	Mostly black outer surface, with fine and dense granular protuberances	Grey yellowish-green, yellowish-brown or brown outer surface; uncleaned staminate flowers, gall flowers or achenes are observable on the inner surface
Microscopic features	Secretory tissue	Absent	With laticifers
	Protective tissue	Epidermal cell of testa, reddish-brown or yellowish-brown	Epidermal cell of receptacle, colourless or light yellowish-brown
	Crystal of calcium oxalate	Absent	With prisms of calcium oxalate

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



Semen Vaccariae - Hong Kong Chinese Materia Medica Standards (Volume 3)
Fici Pumilae Receptaculum - Hong Kong Chinese Materia Medica Standards (Volume 10)



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