Identification of Easily Confused Species of Chinese Materia Medica in Hong Kong by Macroscopic and Microscopic Characteristics Project

# Rosae Rugosae Flos versus Flos Rosae Chinensis





1 cm

#### Source

## Rosae Rugosae Flos

is the dried flower bud of Rosa rugosa Thunb. in the family Rosaceae

#### Flos Rosae Chinensis\*

is the dried flower of Rosa chinensis Jacq. in the family Rosaceae

#### **Overview**

Both Rosae Rugosae Flos and Flos Rosae Chinensis are listed in the Chinese Pharmacopoeia (2020), while only Flos Rosae Chinensis is listed under Schedule 2 of the Chinese Medicine Ordinance. "Mei gui hua" generally refers to plants of the Rosa genus in the family Rosaceae whose flowers have similar appearances. Other than medicinally used, it is also edible and ornamental. In fact, the Chinese Materia Medica (CMM) Rosae Rugosae Flos (Mei gui hua) only refers to the species Rosae rugosae; while Rosa chinensis, of the same genus, is another CMM known as Flos Rosae Chinensis. According to the Chinese Pharmacopoeia, Rosae Rugosae Flos enters the liver and spleen meridians, thereby promoting qi movement to relieve depression, harmonising the blood and relieving pain. On the other hand, Flos Rosae Chinensis enters the liver meridian, through which it activates blood to regulate menstruation and soothes the liver to relieve depression. Despite sharing similar appearance, the two CMM function slightly differently and should be used distinctly.

#### Note:

<sup>\*</sup>Its name in the Chinese Pharmacopoeia (2020) is "Rosae Chinensis Flos".

## **Key identification features**

#### Macroscopic features of Rosae Rugosae Flos



◆ 0void, sub-spherical or irregularly-massed



With numerous petals. Petal in purplish-red or light purplish-red. Some appear yellowish-brown at the base

With 5 sepals which appear lanceolate if intact

Receptacle appears as urceolate or semi-spherical and often has short pedicel

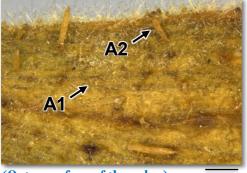
Only stamens, in numerous amount, are observable after removing sepals and petals. Pistil does not extend over the androecium

◆ Strong aroma

## Micro-morphological features

A1: Surface is sparsely covered with white and long pubescences. Nearly glabrous in the centre

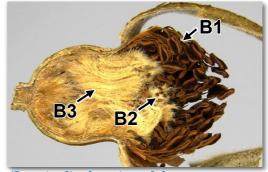
A2: Glandular hair is frequently observable and mostly broken. Its stalk appears long-cylindrical, and head appears oblate



(Outer surface of the calvx)

500 μm

- B1: Stamen is inserted at the opening of receptacle
- B2: Pistil is inserted inside the receptacle with apex much lower than stamen
- B3: Style is densely covered with brownish-yellow villi



(Longitudinal section of the receptacle)

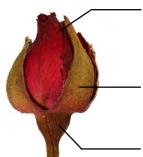
2 mm

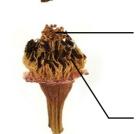
# **Macroscopic features of Flos Rosae Chinensis**



◆ 0void, sub-spherical or irregularly-massed







With numerous petals. Petal in purplish-red, light purplish-red or dark purplish-red, some appear yellowish-brown at the base With 5 sepals which appear lanceolate if intact

Receptacle appears as obconic or semi-oblong and often has pedicel Numerous pistils become observable after removing sepals and petals. Pistil extends over the androecium

Numerous stamens

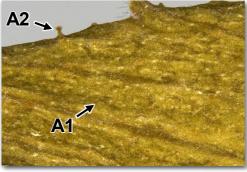
Delicate aroma

1 cm

### Micro-morphological features

5 mm

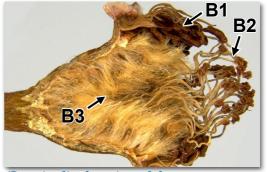
A1: Surface without pubescences
A2: Glandular hair, while barely observable, mainly located at the margin and mostly broken. Its stalk appears cylindrical, and head appears oblate



(Outer surface of the calyx)

500 μm

- B1: Stamen is inserted at the opening of receptacle
- B2: Pistil is inserted inside the receptacle with apex slightly higher than stamen
- B3: Style is densely covered with brownish-yellow villi



(Longitudinal section of the receptacle)

2 mm

#### Microscopic feature comparison of Rosae Rugosae Flos and Flos Rosae Chinensis powder



#### Rosae Rugosae Flos Flos Rosae Chinensis Glandular hair (in top view) (in top view) (in lateral view) (in lateral view) Barely found, mostly broken, multicellular, head appears Occasionally found or absent, mostly broken, multicellular, sub-rounded in top view and appears rounded or flattened head appears sub-rounded in top view and appears round in lateral view, stalk cell arranged in multiple rounded or flattened round in lateral view, stalk cell columns arranged in multiple columns Inner epidermal cell of petal (in surface view) (in surface view) (in lateral view) (in lateral view) Outer wall protruded in surface view; protuberance of Outer wall protruded in surface view; protuberance of outer wall mostly appears semi-oblong or semi-rounded outer wall mostly appears sub-triangular and apex appears and some of the apex appears slightly pointed in lateral slightly flat in lateral view

view

#### Summary

Major differences in the features between Rosae Rugosae Flos and Flos Rosae Chinensis:

		Rosae Rugosae Flos	Flos Rosae Chinensis
Macroscopic and micro-morphological features	Receptacle	Urceolate or semi-spherical	Obconic or semi-oblong
	Pistil	Does not extend over the androecium	Extends over the androecium
	Outer surface of calyx	Sparsely covered with white and long pubescences. Glandular hair is frequently observable	Without pubescences. Glandular hair is barely observable
Microscopic features	Glandular hair	Barely found	Occasionally found or absent
	Inner epidermal cell of petal	Protuberance of outer wall mostly appears sub- triangular	Protuberance of outer wall mostly appears semi- oblong or semi-rounded

For more information, please refer to the <u>Hong Kong Chinese Materia Medica</u> Standards website:



Rosae Chinensis Flos - Hong Kong Chinese Materia Medica Standards (Volume 7)



 $\label{lem:condition} \begin{tabular}{ll} Government Chinese Medicines Testing Institute \\ Department of Health \\ \end{tabular}$ 

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