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

# Herba Artemisiae Scopariae versus Herba Origani





#### Source

#### \*Herba Artemisiae Scopariae

is the dried aerial part of
Artemisia scoparia Waldst. et Kit. or
A. capillaris Thunb.
in the family Compositae

#### Herba Origani

is the dried whole part of Origanum majorana L. in the family Labiatae

#### **Overview**

Herba Artemisiae Scopariae is listed in the Chinese Pharmacopoeia (2020) and Schedule 2 of the Chinese Medicine Ordinance. It has the functions of clearing heat and draining dampness, draining bile and relieving icterus. On the other hand, Herba Origani is only recorded in the *Chinese Materia Medica Standards in Guangdong Province* and it is also named as "*Tu yin chen*" and "*Bai hua yin chen*". It has the functions of dispersing summerheat and releasing exterior, draining water and dispersing swelling. Confusion arises easily as the two Chinese Materia Medica (CMM) names are similar. As the two CMM have pronounced differences in their sources and functions, they should be used accordingly in clinical practice.

#### Note

<sup>\*</sup>Its name in the Chinese Pharmacopoeia (2020 Edition) is "Artemisiae Scopariae Herba".

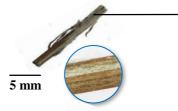
# **Key identification features**

## Macroscopic features of Herba Artemisiae Scopariae



◆ Mostly curled into masses, in greyish-white or greyishgreen. All densely covered with white hairs and soft like





Stem is small and has distinct longitudinal striations observable after removing the white hairs on the surface



Leaf has stalk and the blade appears 1-3pinnate when flattened

Ovate or slightly oblance olate or linear segment with acute  $\ensuremath{\mathsf{apex}}$ 

## Micro-morphological feature

A: Both sides are densely covered with greyishwhite long hairs, but without glandular dots



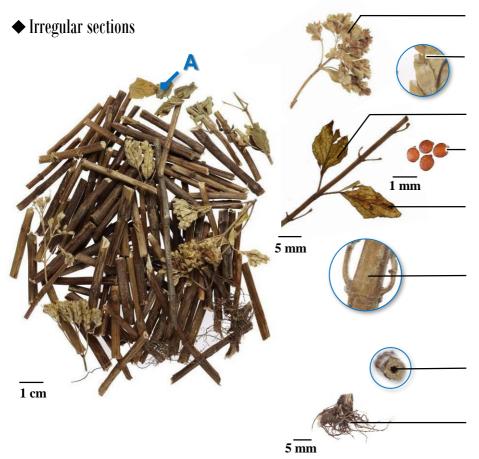
(Surface of the leaf)

2 mm

nutlet

# Macroscopic features of Herba Origani





Terminal cyme; corolla mostly is fallen off

Campanulate calyx is 5-lobed at the apex and densely covered with white and fine pubescences at the margin Lower surface of the leaf has slightly deeper colour; distinct vein Flattened ovate and reddish-brown

Leaf is opposite and mostly shriveled. Intact blade appears ovate or ovoid with entire margin when flattened. Dark green or yellowish-green upper surface.

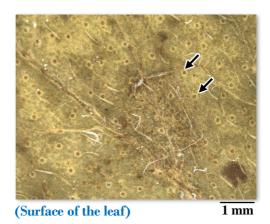
Upper part of the stem is nearly squarecylindrical and barely branched; purplish-brown to light brown surface and greyish-green upper part are densely covered with appressed fine hairs which are distinct between nodes

Lower part of the stem is nearly cylindrical and the fracture is hollow or with pith

Relatively small and slightly curved rootlet with greyish-brown surface

### Micro-morphological feature

A: Both sides are sparsely covered with non-glandular hairs and with glandular dots(→)



# Microscopic feature comparison of Herba Artemisiae Scopariae and Herba Origani powder



		Herba Origani
Non-glandular hair	To μm  Mostly broken, "T"-shaped, slightly bent in the middle with two unequally long arms, extremely thick cell wall, lumen mostly appears fine slit-shaped, stalk consists of 1-2 cells	50 μm Mostly broken, consists of 2-5 cells, cell wall with warty striations
Glandular scale	Absent	50 μm  Oblate, consists of 4-8 secretory cells, light yellow, short and unicellular stalk
Pollen grain	Absent	50 μm Sub-spherical, with warty protuberances on the surface

## Summary

Major differences in the features between Herba Artemisiae Scopariae and Herba Origani:

		Herba Artemisiae Scopariae	Herba Origani
Macroscopic and micro-morphological features	Appearance	Curled into masses	Irregular sections
	Leaf margin	Pinnate	Entire
	Surface of the leaf	Densely covered with non- glandular hairs, but without glandular dots	Sparsely covered with non-glandular hairs and with glandular dots
Microscopic features	Non-glandular hair	"T"-shaped	Consists of 2-5 cells, cell wall with warty striations
	Glandular scale	Absent	Present
	Pollen grain	Absent	Present

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



Artemisiae Scopariae Herba - Hong Kong Chinese Materia Medica Standards (Volume 6)



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

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