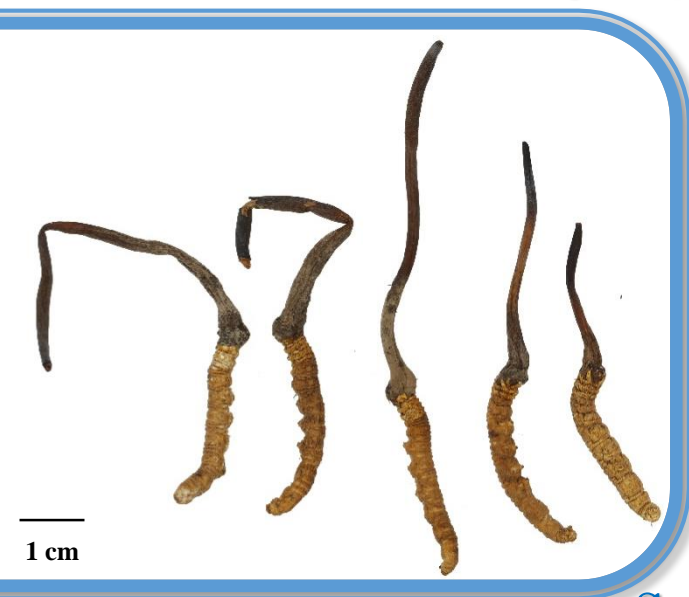


# Cordyceps versus Cordyceps Hawkesii



## Source

**Cordyceps**  
is the composite consisting of  
the stroma of the fungus,  
*Cordyceps sinensis* (Berk.) Sacc.  
in the family Hypocreaceae,  
parasitized on the larva of  
some species of insects  
in the family Hepialidae,  
and the dead caterpillar

**Cordyceps Hawkesii**  
is the composite consisting of  
the stroma of the fungus,  
*Cordyceps hawkesii* Gray  
in the family Hypocreaceae,  
parasitized on the larva of  
some species of insects  
in the family Hepialidae,  
and the dead caterpillar

## Overview

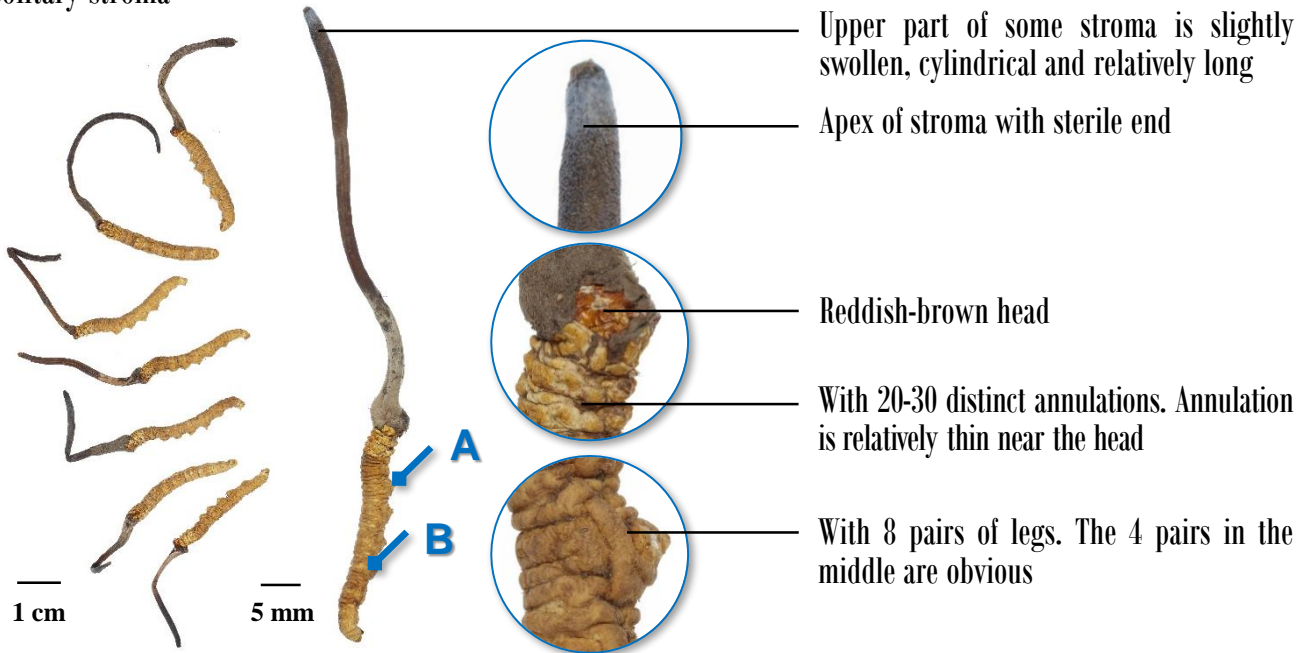
Cordyceps is a Chinese Materia Medica (CMM) listed in Schedule 2 of the Chinese Medicine Ordinance and Chinese Pharmacopoeia (2020). On the other hand, Cordyceps Hawkesii has not been listed in either references. Cordyceps was first recorded in the literatures in Qing Dynasty, while the medicinal value of Cordyceps Hawkesii was first published in the *Zhong guo yao yong bao zi zhi wu* in 1982. According to the Chinese Pharmacopoeia and *Zhong hua ben cao*, both CMM are formed compositely of a dead caterpillar and the fungus stroma growing in the head of the larva. Both CMM can tonify the kidney and replenish the lung, and furthermore, Cordyceps can also be used for resolving phlegm, chronic cough and dyspnea of deficiency type. Despite similar appearances, their functions vary and there is a large difference in their price, thus they should be used accordingly.

## Key identification features

### Macroscopic features of Cordyceps

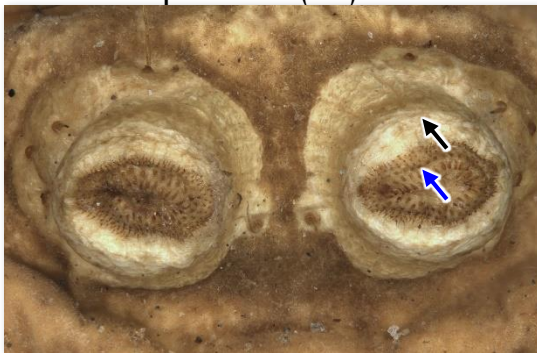


- ◆ Formed compositely of a dead caterpillar and the fungus stroma growing in the head of the larva
- ◆ Deep yellow or yellowish-brown caterpillar resembling a silkworm
- ◆ Solitary stroma



### Micro-morphological features

A: Yellowish-white abdominal leg(→) significantly protruded with yellowish-brown apex. Crochet(→) is distinct



(4 pairs of legs in the middle of caterpillar (Abdominal legs))

500  $\mu$ m

B: Located at the lateral side of caterpillar. Black and elliptical



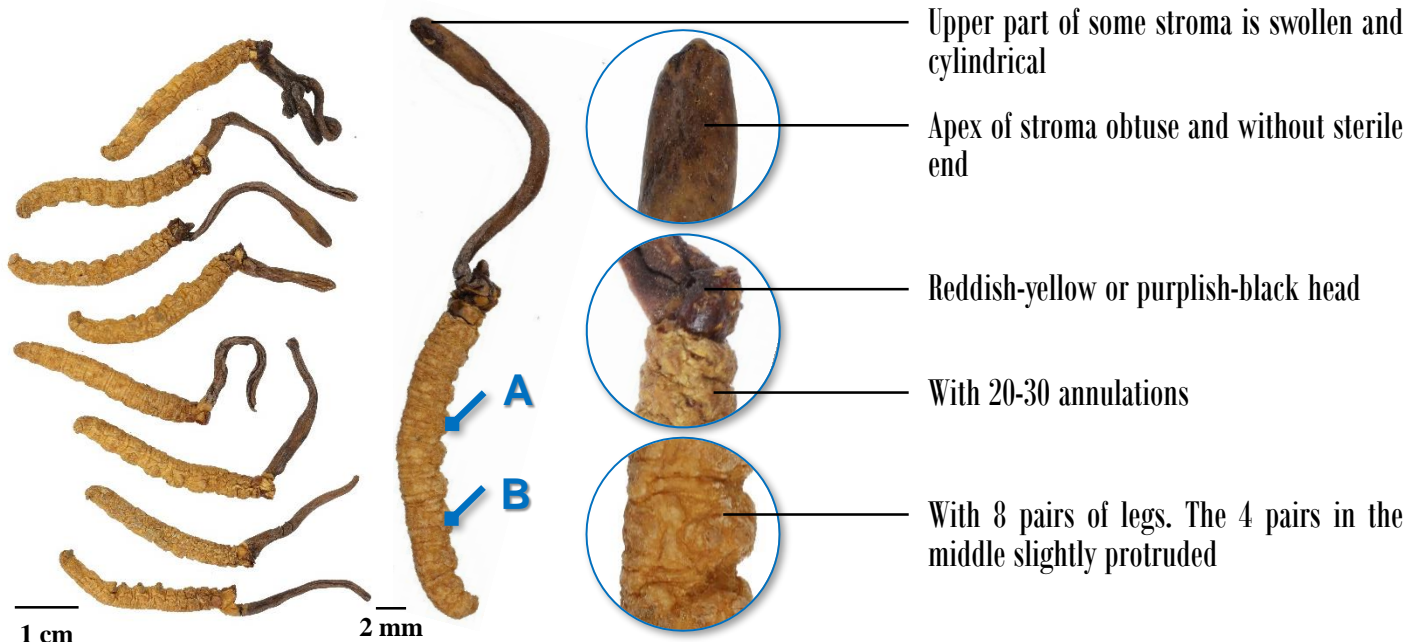
(Spiracle of caterpillar)

200  $\mu$ m

## Macroscopic features of Cordyceps Hawkesii

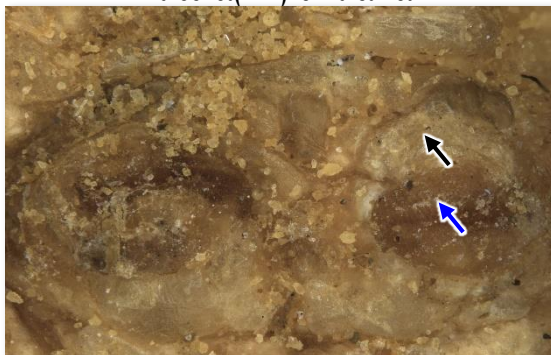


- ◆ Formed compositely of a dead caterpillar and the fungus stroma growing in the head of the larva
- ◆ Deep yellow or yellowish-brown caterpillar resembling a silkworm
- ◆ Stroma is mostly solitary, occasionally with 2-4



## Micro-morphological features

A: Yellowish-brown abdominal leg(→) insignificantly protruded with yellowish-brown apex.  
Crochet(→) is indistinct



(4 pairs of legs in the middle of caterpillar (Abdominal legs))

B: Located at the lateral side of caterpillar. Brown and linear



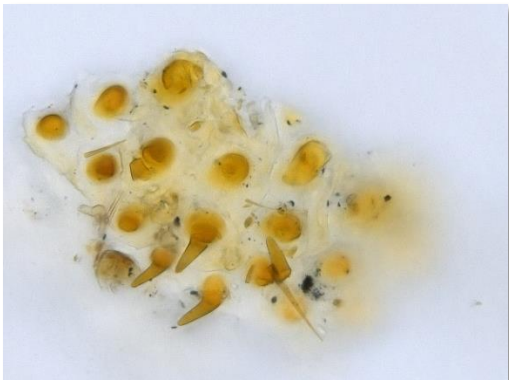



(Spiracle of caterpillar)



Microscopic feature comparison of  
Cordyceps and Cordyceps Hawkesii powder



	Cordyceps	Cordyceps Hawkesii
Integument cell of caterpillar	 <p>Colourless, light yellow or yellow. Densely covered with small setae on the surface</p>	 <p>Light yellow or yellow. With irregular stripes on the surface, distributed with brown dotted spots and scars between stripes</p>
Crochet of caterpillar	 <p>Barely found. Yellow or orange-yellow; obtuse apex, base becomes broader gradually and sometimes slightly hooked</p>	 <p>Barely found. Yellow or orange-yellow; cylindrical or club-shaped, swelling of the base indistinct</p>

50 µm

## Summary

Major differences in the features between Cordyceps and Cordyceps Hawkesii:

		Cordyceps	Cordyceps Hawkesii
Macroscopic and micro-morphological features	<b>Stroma</b>	Some with slightly swollen and relatively long upper part	Some with swollen upper part
	<b>4 pairs of legs in the middle of caterpillar (Abdominal legs)</b>	Significantly protruded, yellowish-white	Insignificantly protruded, yellowish-brown
	<b>Spiracle of caterpillar</b>	Black, elliptical	Brown, linear
Microscopic features	<b>Integument cell of caterpillar</b>	Densely covered with small setae	With irregular stripes
	<b>Crochet of caterpillar</b>	Obtuse apex, base becomes broader gradually and sometimes slightly hooked	Cylindrical or club-shaped, swelling of the base indistinct



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