

Expert Herbal Reality Resource

Cordyceps

Names

Botanical Name: Ophiocordyceps sinensis

Family: Ophiocordycipitaceae

Common names: In Chinese cordyceps translates as *Cord* (club), *ceps*(head), *sinensis* (from). Catapillar fungus, club head fungus, yartsa gunbu, dōng chóng xià cǎo (winter insect, summer grass)



Description

Belonging to the family Ophiocordycipitaceae, Cordyceps is a parasitic fungi that grows mainly on insects and other arthropods, primarily on lepidopterous (butterflies and moth) caterpillars.

Cordyceps thrives in high altitude, cold, grassy, alpine grasslands of the Tibetan, Nepalese, Bhutanese, and Indian Himalayan areas.

The spores of Cordyceps are spread by wind over the soil and onto plants, where they come into contact with the larvae, particularly when the caterpillars emerge to feed on roots and herbaceous vegetation.

Larvae were observed eating tender roots of alpine meadow species such as Polygonum, Astragalus, Salix, and Rhododendron.

The infected hosts live underground where they can spend up to 5 years before pupating. Cordyceps spores enter the bodies of their host either through the mouth or the respiratory pores. The mycelium then invades the caterpillar's body, filling its cavity, killing the insect, and eventually completely replacing the host tissue. The dead caterpillar appears yellowish to brown in colour.

The cylindrical club-shaped fruiting body, 5-15 cm long and orange brown to reddish brown in color, grows up from spring to early summer, protruding and developing out of the caterpillar's head.

The length of the dried mushroom spans from 3 to 10 centimetres.

Constituents

Polysaccharides -galactomannins, Cordycepic acid (2, 3)

Amino acids (2, 3)

Glycoproteins (2)

Fatty acids - 31.69% oleic, 68.31% linoleic (2, 3)

Polyamines (3)

Ecdysterones (2)

Sterols - Ergosterol (4)

Cordycepin- ergosterol (4)

L-Tryptophan

Traditional use

Believed to restore vigour and promote longevity (3) Cordyceps is a well-known adaptogen (substance that supports the body's resilience to the damaging effects of stress), also used in the convalescence stages of long-term illness and stress exhaustion (5).

Therapeutically in the energetic understating of TCM (Traditional Chinese Medicine), the action of this medicine is related to the kidney and lung channels. The kidneys being the organ that manages elimination and blood quality, Cordyceps has been prescribed in TCM to counteract various types of anaemia, also increasing blood production and quality (6).

In Chinese Medicine, Cordyceps is considered a supportive medicine for asthma sufferers, with its ability to relax smooth muscle (i.e. of the lungs) (7).

Known as *Yartsa Gumbu* in Tibet, Cordyceps has been used as a tonic for more than 500 years, specifically as a tonic for male virility. Male impotence and premature ejaculation being among some of the traditional applications mentioned in the Chinese Pharmacopeia (6, 8).

Traditionally Cordyceps is also used in recovery from opium poisoning and addiction (3, 6).



Traditional actions

- Adaptogenic
- Antiasthmatic
- Antioxidant
- Hepatoprotective (3)
- Immunomodulatory
- Anti-inflammatory
- Antimicrobial
- Hypolipidaemic
- Hypoglycaemic
- Hypercholesteremic
- Neuroprotective and renoprotective (4)

What practitioners say

Endocrine system: a widely used adaptogenic plant, that supports function of the adrenal glands, lending itself in excellence for the support of those experiencing prolonged periods of stress.

Adaptogenic medicines such as Cordyceps modulate our physiological responses to stress by helping to support and regulate the interconnected neuro-endocrine (neural-hormonal) and immune systems.

The prolonged exposure to stress hormones can reduce our bodies ability to repair cell damage and lower our immune function, adaptogenic medicines reduce these effects whilst modulating physiological stress response (3, 6).

Reproductive system: In male reproductive health, Cordyceps is often considered an aphrodisiac to improve cases of hyposexuality, male impotence and premature ejaculation, also increasing production of sperm (9, 6, 8). In female reproductive health, there are references of use for regulating the menstruation and also improving cases of hyposexuality (2, 9).



Respiratory system: There is a strong thread of reference that suggests Cordyceps is used as supportive treatment for chronic respiratory conditions. Especially in the presence of a persistent dry cough, excess phlegm and respiratory inflammation. By its action in relaxing smooth muscle of the lungs, Cordyceps is used to support those with asthma and bronchitis (3, 7).

Immune system: Cordyceps can be used to modulate the function of the immune system and reduce inflammation in the body. Increasing the growth and activity of a number of important immune cells that support the body in its ability to activate and defend during infection and viral recovery (12, 13).

Eliminatory system: Kidneys - Cordyceps is traditionally used to support kidney function, removing waste from the blood and maintaining mineral and fluid balance in the body (10, 11). Traditionally used in supportive treatment for degenerative kidney disease, combined with nettle seed and rehmannia (3). A medicine which holds therapeutic value in treatment of disease of the liver, improving liver function and supporting its function in detoxing the blood (10, 11, 14, 15).

Metabolism: Enhancing cellular energy stores and lowers blood cholesterol levels. As an antioxidant agent Cordyceps also helps to prevent cell damage and aid in cell repair caused by oxidative stress (3, 9, 13).

Evidence

Cordyceps has clearly been of great interest among the scientific community. A number of research papers are able to offer some clarity around the known therapeutic values of this medicine.

There are a number of analytical assays to identify the active compounds present in Cordyceps. Findings confirmed that there is a strong case for the presence of antioxidant activity and potentially cytotoxin inhibitory effects. This same assay suggests a definite presence of compounds likely to be responsible for its protective effects on kidneys (13).

In a systematic review there was found to be extensive research into the Anti-tumour effects of Coryceps. The Immunomodulatory action of this medicine is also well covered, with a large number of compounds having been isolated and confirmed with such therapeutic capacity (14, 15, 17).

Cordyceps has also been found to have a protective effect in liver patients, including those with viral hepatitis A, chronic hepatitis B, chronic hepatitis C and hepatic fibrosis. It enhances cell immunological function, improving liver function and inhibiting hepatic fibrosis (14, 15).

A randomised double blind placebo trial was carried out to evaluate the effects of Cordyceps extracts on cardiopulmonary fitness and cognitive function in a group of young healthy physical education students in 2013.

Safety

Cordyceps might be unsafe to take whilst using the following medications. Check with your healthcare provider or Medical Herbalist before this medicine taking any of the following.

Moderate/mild interactions:

- Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs) interacts with Cordyceps. Cordyceps might slow blood clotting. Taking cordyceps along with medications that also slow blood clotting might increase the risk of bruising and bleeding.
- Testosterone interacts with Cordyceps. Cordyceps might increase testosterone levels. But it's not clear if this is a big concern. People taking testosterone should be cautious until more is known about this potential interaction.

Dosage

Tincture (1:4, 1:5) 20 -40 drops up to three times per day

Decoction: Add one - half a tsp of powdered mushroom or mycelium to 300ml water, decoction (simmer) for one hour. Take one or two cups a day.

References

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