

# Review & prospects for research & industrialization of Cordycipitoid Fungi in China

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## **ABSTRACT:**

Cordycipitoid fungi refer to the fungi in 3 families of Hypocreales, Cordycipitaceae, Ophiocordycipitaceae and Clavicipitaceae, including over 1600 species. Their hosts include insects, spiders, plant and the some fungi. They are valuable resource of food, healthy food and drugs, and some are very important agents for biological control of insects, such as famous *Beauveria bassiana* and *Metarhizium anisopliae*, and possibly for control of plant diseases and herbs. They have been used for food, healthy food, and drugs, mainly in China and some other East Asian countries. Some of their bioactives have been developed into drugs and cosmetics. Some of them have been used for over hundreds of years in China and a substantial industry of Cordycipitoid products, has formed in China and is gradually expanding to other countries. Among them, annual sales of the products, mainly by use of fruiting bodies, spores, mycelia, or bioactives, from *Ophiocordyceps sinensis*, *Cordyceps militaris*, *Cordyceps chanhua*, *Paecilomyces hepialid*, *Tolypocladium guangdongense* and some other species totaling ca. more than 1 billion USD each year. Now, the industry is going to the world through international collaboration. The existing problems in the development are mainly the confusion in identification, few medical and healthy food products developed as many bioactives discovered, and slow transformation to the industry of the research achievements. In this field, active national and international collaboration, academic and/or industrial, are showing great promise.

## **KEYWORDS:**

Cordycipitoid fungi; Cordyceps; application; human health; industrialization; international collaboration