

## **Cordyceps and cordycipitoid fungi**

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Cordyceps historically comprised over 400 species and some of them are used extensively in traditional Chinese medicine. In the past few decades, the pharmaceutical and cosmetics, health products developed from cordyceps have made great progress of research and development of cordyceps. However, there is different understanding on cordyceps and cordycipitoid fungi between mycologists and Chinese medicine scientists because mycologists emphasize phylogenic relationship while medicinal scientists emphasize medicinal function. Here "cordyceps" is proposed as a common English word to represent the natural or cultivated entities of the fungi on their hosts. The most research progresses are that many new taxa have been discovered in China and other Asia countries and the -omics studies have revealed the mechanisms of evolution and biology of cordycipitoid fungi and their interaction with host insects. In the meanwhile, Chinese cordyceps, a valuable Chinese traditional medicine and national fungus of China, its successful cultivation ex situ by a detailed investigation into the cycle of *Thitarodes xiaojinensis* infected by *Ophiocordyceps sinensis* has created a large industry. Breakthroughs in artificial cultivation of Chinese cordyceps will certainly benefit the scientific research, environment protection of Tibet-plateau, human health and social progress.