Life Sciences

Poisonous Mushrooms and Where to Find Them in China

Poisonous mushrooms are very rich and diverse in China. Lethal amanitas are a group of wild, deadly poisonous mushrooms containing cyclic peptide toxins, which are chemically stable and resistant to high temperatures.

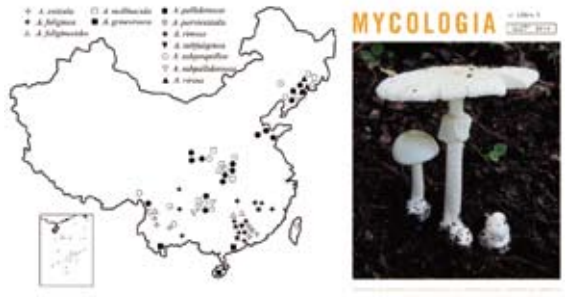
In the last decades, about 90% of fatal mushroom poisonings worldwide was caused by eating lethal amanitas which are easily confusable with edible amanitas. Lethal amanitas in Europe (ca. five species) and North America (15 taxa) have relatively been well known. However, lethal amanitas in East Asia are largely unknown.

Based on a five-gene phylogeny in combination with morphological characters and ecological evidence, a research group led by Prof. YANG Zhuliang at the Kunming Institute of Botany, Chinese Academy of Sciences has unveiled the species diversity and geographic distribution patterns of lethal amanitas in China. Twelve lethal *Amanita* species have been recognized in China, including eight taxa described as new to science by the group in the last few years. Most of these lethal amanitas are distributed in subtropical regions, and only few of them are restricted to the tropical or the temperate.

This study not only provides solid information on the species diversity, ecology and geographical distribution of lethal amanitas in China, but also is useful for the prevention of mushroom poisoning both in China and in other East Asian countries.

The study entitled "Lethal *Amanita* species in China" has been published in *Mycologia*. The work was supported by the National Natural Science Foundation of China and Yunnan provincial government.

The lethal Amanita species in China: a. *A. exitialis*; b. *A. fuliginea*; c. *A. fuligineoides*; d. *A. riseorosea*; e. *A. molliuscula*; f. *A. pallidorosea*; g. *A. parviexitialis*; h. *A. rimosa*; i. *A. subfuliginea*; j. *A. subjunquillea*; k. *A. subpallidorosea*; l. *A. virosa*.



Primary known locations of lethal *Amanita* species in China (Images: KIB)