Microscopic Identification of Western Medicinal Herbs

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ABSTRACT

The increasing use of herbal medicines throughout the world has aroused international attention as to their safety, efficacy and consistency. Confused species or inferior quality of herbal materials can, at the least, degrade the curative effects of herbal medicines or, at the worst, induce poisoning. Authentication of herbal materia medica (HMM) is the first priority in quality control of herbal medicines. Authentication provides correct identification of herbal plants, distinguishes true herbs from fakes, and differentiates different types of herbal materials with similar morphology.

In this study, 32 samples (include 25 of Western medicinal herbs and 7 of Chinese medicinal herbs) will be systematically analyzed using microscopic techniques, and the results will be compared with the characteristics of similar CMM--that is, CMM of the same genus and of similar attributes, but of different species. There is no systematic investigation to compare their macroscopic and microscopic feature before. This study will be the first to provide such comprehensive comparative information.

Through this investigation, knowledge of Western medicinal herbs will be increased, so as to reduce risk of misuse and mistakes arising from misidentification. Moreover, by comparing macroscopic and microscopic characteristics of commonly used Western and Chinese herbal medicine of the same genus, safe and efficient application of Western and Chinese herbal medicine is ensured and also provides new paths and ideas to broaden the range of herbal medicine application.
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