Pharmacognostical Studies of Salviarum Radicies. Morphological and Anatomical Characteristics on the Underground Part of Seven Salvia Species (Lamiaceae)

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The crude drugs, Salviarum Radicies derived from the underground part of plants of Salvia L. (Lamiaceae), are widely used in the system of traditional Chinese medicine. Among them, Salviae Miltiorrhizae Radix (Danshen in Chinese and Tanjin in Japanese) was recently included in the Japanese Pharmacopoeia, and used for cardiovascular disorders and syndromes caused by blood stagnation. Through our field survey, the commercial crude drugs varied in color, texture and/or diameter. Accordingly, the crude drug, namely Salviae Miltiorrhizae Radix but of improper origin, is possibly used, which may impact safety and efficacy. Therefore, we carried out morphological and anatomical studies on the underground part of seven species of Salvia plants, i.e., S. bowleyana Dunn, S. deserta Schangin, S. miltiorrhiza Bunge, S. paramiltiorrhiza H. W. Li & X. L. Huang, S. przewalskii Maxim., S. sinica Migo, and S. yunnanensis C. H. Wright to find out the species-specific characteristics for identification of the crude drugs. The compared plant materials could be distinguished from each other by the external morphologies and the anatomical characteristics such as shape of the masses of the mechanical tissues in xylem (MTX), maximum diameter of vessels in secondary xylem in the roots, and so on.

Key words: Danshen, mechanical tissue, plant anatomy, Salvia miltiorrhiza, Salvia przewalskii, Salviae Miltiorrhizae Radix, standardization, Tanjin.

The crude drugs, Salviarum Radicies (SR) derived from the underground part of Salvia L. (Lamiaceae (Labiatae)) such as Danshen (丹参), Zi-danshen (紫丹参, Purple danshen), and Hongqinjiao (紅腫芎, Red qinjiao), are widely used in the system of traditional Chinese and Kampo medicines. Among them, Danshen (Tanjin in Japanese) is one of the most famous crude drugs and is described as high grade medicine (Tao and Mori, 6th century, 1973) used traditionally as a remedy for heart or abdominal diseases and removing pathogenic blood stagnation (Tang and Kimura, 1108, 1970). At present, one of well-known formulae prescribing Danshen, Guanxin 2 haofang (冠心2号方), which has been also sold in Japan, is used for...


