Aconitum spp. 3

3.1 Introduction

The aconite root is one of the most important and common drugs in Chinese traditional medicine and folk medicine. *Aconitum carmichaeli* Debx. and *A. kusnezoffii* Reichb. (Ranunculaceae) are now officially listed in the Chinese pharmacopoeia, which contains the following items regarding *Aconitum.*

- Chuanwu, Radix Aconiti, is the dry root of *A. carmichaeli* collected from June to August.
- Zhichuanwu, Radix Aconiti Preparata, is the root of *A. carmichaeli* prepared by soaking in water and then cooking in water for 4–6 h or steaming for 6–8 h.
- Fuzi, Radix Aconiti Lateralis Preparata, is the lateral root of *A. carmichaeli* prepared by different methods.
- Caowu, Radix Aconiti kusnezoffii, is the dry root of *A. kusnezoffii* collected in fall when the aerial part of the plant has withered.
- Zhicaowu, Radix Aconiti kusnezoffii Preparata, is the root of *A. kusnezoffii* prepared as described for Radix Aconiti Preparata.
- Caowuye, Folium Aconiti kusnezoffii, are the leaves of *A. kusnezoffii* collected in summer before the plant flowers.

Besides the above mentioned items, the following aconite species are included in the appendix of the pharmacopeia: *A. balfourii* Stapf (roots), *A. szechenyianum* Gay. (roots, leaves), *A. naviculare* Stapf (whole plant), *A. tanguticum* (Maxim.) Stapf (whole plant), and *A. kusnezoffii* (sprouts).

The aconite roots are very toxic and are used as analgesic and anesthetic agents in the treatment of neuralgic and rheumatic affections. The processed roots are less toxic because the alkaloid content is in part decomposed during the preparation process. The lateral roots are widely used as a cardiotonic and to improve blood circulation.

There are 167 species of *Aconitum* found in China, 44 of which have been used in medicine [1].

3.2 Chemical Constituents

The aconite plants are known to contain a number of C_{19} and C_{20} diterpene alkaloids which can be generally divided into two classes. The basic structures of the first class have a four ring system in common, derived from kaurane (*3-1*) with carbon atoms C-19 and C-20 connected to an amine thus yielding a cyclic amine designated as 7,20-cycloveatchane (*3-2*). An example of this class is the alkaloid songorine (*3-3*).