

## Chinese herbology

**Chinese herbology** ... is the theory of traditional Chinese herbal therapy, which accounts for the majority of treatments in traditional Chinese medicine (TCM). An editorial in *Nature* stated that TCM is largely pseudoscience, with no valid mechanism of action for the majority of its treatments.

The term <u>herbology</u> is misleading in the sense that, while plant elements are by far the most commonly used substances, animal, human, and mineral products are also utilized...

The effectiveness of traditional Chinese herbal therapy remains poorly documented. There are concerns over a number of potentially toxic Chinese herbs.

### Raw materials

There are roughly **13,000 medicinals** used in China and over **100,000** medicinal recipes recorded in the ancient literature. Furthermore, the classic *materia medica Bencao Gangmu* describes the use of 35 traditional Chinese medicines derived from the human body, including bones, fingernail, hairs, dandruff, earwax, impurities on the teeth, feces, urine, sweat, and organs, but most are no longer in use.

Each herbal medicine prescription is a cocktail of many substances, usually tailored to the individual patient.

#### Chinese herbal extracts

Chinese herbal extracts are herbal decoctions that have been condensed into a granular or powdered form.

## Toxicity

Since TCM has become more popular in the Western world, there are increasing concerns about the potential toxicity of many traditional Chinese medicinals including

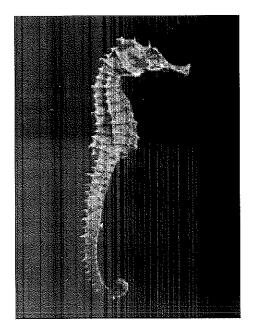
plants, animal parts and minerals. For most medicinals, efficacy and toxicity testing are based on traditional knowledge rather than laboratory analysis.

# ...Research suggests that the toxic heavy metals and undeclared drugs found in Chinese herbal medicines might be a serious health issue.

Substances known to be potentially dangerous include <u>aconite</u>, secretions from the <u>Asiatic toad</u>, powdered centipede, the Chinese beetle (<u>Mylabris phalerata</u>, Ban mao), and certain fungi. There are health problems associated with <u>Aristolochia</u>. Toxic effects are also frequent with <u>Aconitum</u>. To avoid its toxic adverse effects <u>Xanthium sibiricum</u> must be processed. <u>Hepatotoxicity</u> has been reported with products containing <u>Polygonum multiflorum</u>, glycyrrhizin, <u>Senecio</u> and <u>Symphytum</u>. The evidence suggests that hepatotoxic herbs also include <u>Dictamnus dasycarpus</u>, <u>Astragalus membranaceous</u>, and <u>Paeonia lactiflora</u>; although there is no evidence that they cause liver damage.[4] Contrary to popular belief, <u>Ganoderma lucidum</u> mushroom extract, as an adjuvant for cancer immunotherapy, appears to have the potential for toxicity....

Products adulterated with <u>pharmaceuticals</u> for weight loss or erectile dysfunction are one of the main concerns. Chinese herbal medicine has been a major cause of <u>acute liver</u> failure in China.

### **Ecological impacts**



Dried <u>seahorses</u> like these are extensively used in <u>traditional medicine</u> in China and elsewhere.

The traditional practice of using (by now) <u>endangered</u> <u>species</u> is controversial within TCM....Parts of endangered species used as TCM drugs include tiger bones and <u>rhinoceros horn</u>. Poachers supply the <u>black market</u> with such substances, and the black market in rhinoceros horn, for example, has reduced the world's rhino population by more than 90 percent over the past 40 years. Concerns have also arisen over the use of <u>turtle plastron</u> and <u>seahorses</u>. TCM recognizes <u>bear bile</u> as a medicinal. In 1988, the Chinese Ministry of Health started controlling bile production, which previously used bears killed before winter. Now bears are fitted with a sort of permanent <u>catheter</u>, which is more profitable than killing the bears.

More than 12,000 <u>asiatic black bears</u> are held in "bear farms", where they suffer cruel conditions while being held in tiny cages. The catheter leads through a permanent hole in the abdomen directly to the <u>gall bladder</u>, which can cause severe pain. Increased international attention has mostly stopped the use of bile outside of China.

Collecting <u>American ginseng</u> to assist the Asian traditional medicine trade has made ginseng the most harvested wild plant in North America for the last two centuries, which eventually led to a listing on <u>CITES Appendix II</u>.