

Sichuan pepper (Chinese: 花椒; pinyin: huajiō; Nepali: तिमुर, romanized: timur), also known as Szechuan pepper, Szechwan pepper, Chinese prickly ash, Chinese pepper, Mountain pepper, and mala pepper, is a spice commonly used in Sichuan cuisine in China, and in Nepal and north east India. Despite its name, Sichuan pepper is not closely related to black pepper or chili peppers. It is made from plants of the genus *Zanthoxylum* in the family Rutaceae, which includes citrus and rue.[1]

When eaten, Sichuan pepper produces a tingling, numbing effect due to the presence of hydroxy-alpha sanshool.[2] The spice has the effect of transforming other flavors tasted together or shortly after. It is used in Sichuan dishes such as mapo doufu and Chongqing hot pot, and is often added together with chili peppers to create a flavor known as *málà* (Chinese: 麻辣; 'numb-spiciness').

Sichuan peppers have been used for culinary and medicinal purposes in China for centuries with numerous *Zanthoxylum* species called hujiō (lit. "flower pepper"). Commonly used sichuan peppers in China include *hónghuajiō* (Chinese: 红花椒), or red Sichuan peppercorns, which are harvested from *Zanthoxylum bungeanum*, and *qīnghuajiō* (Chinese: 青花椒) or *májiō* (Chinese: 麻椒), green Sichuan peppercorns, harvested from *Zanthoxylum armatum*. Fresh green Sichuan peppercorns are also known as *téngjiō* (Chinese: 藤椒).[4] Red Sichuan pepper is typically characterized as stronger-tasting, while green Sichuan pepper is milder but fragrant and has a stronger numbing effect.[5][4] Over the years, Chinese farmers have cultivated multiple strains of these two varieties.[6] *Zanthoxylum simulans*, known as Chinese-pepper or flatspine prickly-ash, is the source of another red Sichuan peppercorn.[7]

*Zanthoxylum armatum* is found throughout the Himalayas, from Kashmir to Bhutan, as well as in Taiwan, Nepal, China, Philippines, Malaysia, Japan, and Pakistan,[8] and is known by a variety of regional names, including timur (तिमुर) in Nepali and Hindko,[9] yer ma (ཡེ་མ་) in Tibetan[10] and thingye in Bhutan.[11]

*Zanthoxylum gillettii* is an African variety of genus *Zanthoxylum* used to produce spice uzazi. Similarly, other *Zanthoxylum* species are harvested for spice and season production in a number of cultures and culinary traditions. These spices include andaliman, chopi, sancho, sansh, teppal, and tirphal.[citation needed]

Sichuan pepper is an important spice in Chinese, Nepali, Kashmiri, north east Indian, Tibetan, and Bhutanese cookery of the Himalayas. Sichuan pepper has a citrus-like flavor and induces a tingling numbness in the mouth, akin to a 50-hertz vibration,[12] due to the presence of hydroxy-alpha sanshool. Food historian Harold McGee describes the effect of sanshools thus:

"...they produce a strange, tingling, buzzing, numbing sensation that is something like the effect of carbonated drinks or of a mild electric current (touching the terminals of a nine-volt battery to the tongue). Sanshools appear to act on several different kinds of nerve endings at once, induce sensitivity to touch and cold in nerves that are ordinarily nonsensitive, and so perhaps cause a kind of general neurological confusion." [13]

For cooking, whole, green, freshly picked Sichuan pepper may be used in cooking, but more commonly dried Sichuan pepper is used. Once dried, the shiny black seeds inside the husk are discarded, along with any stems; the husk is what we know as Sichuan pepper or peppercorn.[citation needed]

The peppercorn may be used whole or finely ground, as it is in five-spice powder.[14] Ma la sauce (Chinese: 麻辣; pinyin: málà; literally "numbing and spicy"), common in Sichuan cooking, is a combination of Sichuan pepper and chili pepper, and it is a key ingredient in Chongqing hot pot.[15]

Sichuan pepper is also available as an oil (Chinese: 花椒油, marketed as either "Sichuan pepper oil", "Bunge prickly ash oil", or "huajiao oil"). Sichuan pepper infused oil can be used in dressing, dipping sauces, or any dish in which the flavor of the peppercorn is desired without the texture of the peppercorns themselves.[16]

Hua jiao yan (simplified Chinese: 花椒盐; traditional Chinese: 花椒鹽; pinyin: huājiāoyán) is a mixture of salt and Sichuan pepper, toasted and browned in a wok, and served as a condiment to accompany chicken, duck, and pork dishes.[17]

The leaves of the sichuan pepper tree are also used in soups and fried foods.[18]

One Himalayan specialty is the momo, a dumpling stuffed with vegetables, cottage cheese, or minced yak or beef, and flavored with Sichuan pepper, garlic, ginger, and onion.[19] In Nepal, the mala flavor is known as timur (मसूर). [20]

In Traditional Chinese Medicine, *Zanthoxylum bungeanum* has been used as a herbal remedy. It is listed in the Pharmacopoeia of the People's Republic of China and is prescribed for ailments as various as abdominal pains, toothache, and eczema. However, Szechuan pepper has no indications or accepted case for use in evidence-based medicine. Research has revealed that *Z. bungeanum* can have analgesic, anti-inflammatory, antibacterial, and antioxidant effects in model animals and cell cultures.[21] In rabbits, *Z. armatum* was experimentally investigated for its potential use in treating gastrointestinal, respiratory, and cardiovascular disorders.[22]

Important compounds of various *Zanthoxylum* species include:

From 1968 to 2005,[24] the United States Food and Drug Administration banned the importation of Sichuan peppercorns because they were found to be capable of carrying citrus canker (as the tree is in the same family, Rutaceae, as the genus *Citrus*). This bacterial disease, which is very difficult to control, could potentially harm the foliage and fruit of citrus crops in the U.S. The import ban was only loosely enforced until 2002.[25]

In 2005, the USDA and FDA allowed imports,[26] provided the peppercorns were heated for ten minutes to approximately 140 °F (60 °C) to kill any canker bacteria.[27] Starting in 2007, the USDA no longer required peppercorns to be heated, fully ending the import ban on peppercorns.[28]

