

A Taste of Sichuan: *Zanthoxylum simulans*

Jonathan Damery

Spices have molded the modern world. Columbus and his fleet sailed in the name of black pepper. New Amsterdam, the Dutch colonial settlement on Manhattan Island, became New York in an island trade essentially pertaining to nutmeg. And the records go on back, to the time when the caravan routes of the rising Arab world first introduced exotic Eastern spices to the insipid foods of Europe.

The worldwide distribution of spice-producing plant species (and especially the woody plants within that group) is limited mostly to tropical climates, which excludes the most common spice plants from the temperate-zone tree and shrub collections of the Arnold Arboretum. Of the few exceptions, the Arboretum is home to one spice-producing plant of particular interest—*Zanthoxylum simulans*, a source of Sichuan pepper.

Though not a common spice in American kitchens, the signature mouth-numbing flavor of Sichuan pepper is indispensable in the regional cuisine of Sichuan, China. It is produced from the dried fruit of several different species of *Zanthoxylum*, also known as the prickly ashes. The most common sources are *Z. bungeanum* and *Z. simulans* (formerly considered varieties of the same species), and *Z. piperitum* is used for similar culinary purposes in Japan.

IT IS INTERESTING to note that *Zanthoxylum* is a member of the citrus family (Rutaceae). In the United States, this relationship has proved to be rather problematic for Sichuan cooks. Thought to be a potential mode of introducing citrus canker to American citrus groves, the United States Food and Drug Administration forbade its importation for nearly forty years, from 1968 to 2005 (though serious enforcement only came about in 2002). The ban was lifted under the stipulation that the Sichuan pepper be heated just enough to kill any infectious bacteria prior to importation.

Several examples of both *Zanthoxylum simulans* (flatspine prickly ash) and *Z. piperitum* can be found growing in the Arboretum, but the most notable is a large specimen of the former, tucked in just before the smoketree collection on Meadow Road. This specimen (accession 1803-77-A) was collected as seed by Arboretum taxonomists Stephen Spongberg and Richard Weaver in 1977 from the Forest Research Institute in Seoul, South Korea.

The gracefully spreading form of this specimen (24.3 feet [7.4 meters] tall, 6.5 inch [16.5cm] diameter main stem) melds easily into the border of Meadow Road, but even in the winter it is worth taking a few steps off the path for a closer view. A spiny plant from twig to trunk, the spines (or technically prickles in the case of those on the trunk) become enlarged and woody, lending an exotic appearance to the tree. The deep green compound leaves have an attractive glossy sheen, and in midsummer *Z. simulans* is covered with a greenish white haze of small flowers, followed by a prolific display of small, round follicles (a type of dehiscent fruit). At maturity these fruits turn a pinkish-bronze color and split open, spitting out the seeds. The dried follicle is the culinary product, Sichuan pepper.

On the plains and in upland forests of northern and central China, Arboretum plant explorer E. H. Wilson reported that *Zanthoxylum simulans* grew naturally on cliffs and waysides. In cultivation it was grown in dry, hot river valleys. This is a good indication of its adaptability to a myriad of difficult landscape conditions. The species is cold hardy in USDA Zones 5 to 7 (average annual minimum temperature -20 to 10°F [-28.8 to -12.3°C]).

From the bare winter trunks through the remarkable autumn fruit display, *Zanthoxylum simulans* is worth viewing all year long. It is a not-so-hidden—but often missed—Arboretum treasure.

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