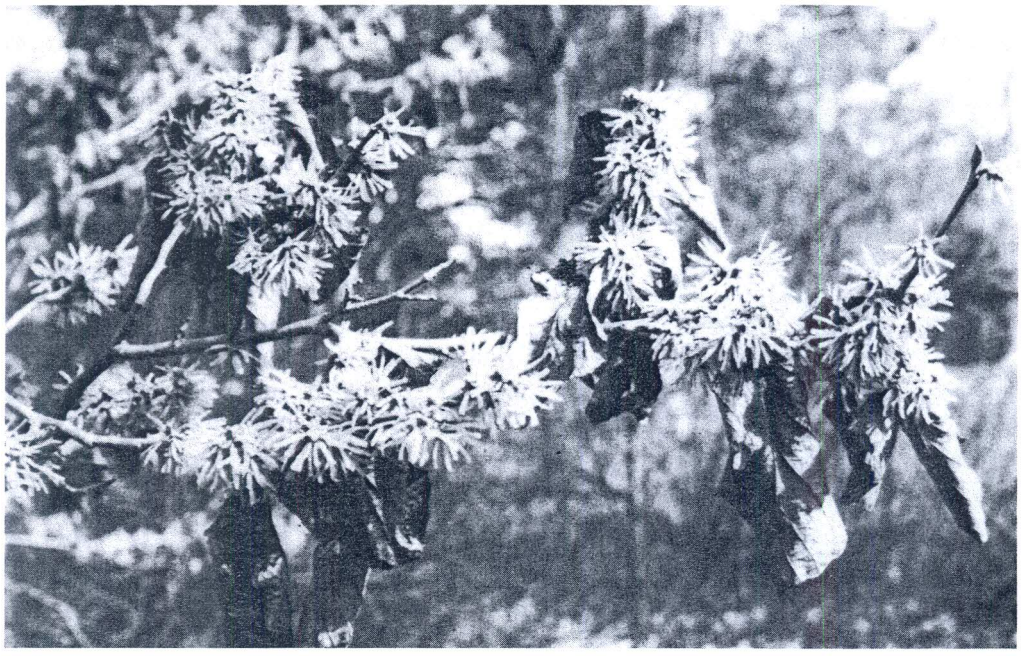
Mione, Thomas. 1988.

The Mysterious Properties of Witch Hazel.

Connecticut Environment. The Citizens' Bulletin of the

Connecticut Department of Environmental Protection.

November 1988, pages 12 – 14.



*Chinese witch hazel* (Hamamelis mollis) *in full bloom; this non-native plant often blooms when the snow is melting. (Photo: Tom Mione)*

*Chinese witch hazel blossoms after meyer)*

# The Mysterious Properties of Witch Hazel

by
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THE LAST NATIVE TREE to bloom in eastern American forests is the common witch hazel (*Hamamelis virginiana*). This relatively small (generally 15 to 20 feet in height), often multiple-trunked tree is widely distributed. In the northern portions of its range (eastern Canada and our northern states) it blooms as early as September, while at the southern end of its range (eastern Texas through northern Florida) it blooms as late as December. In Connecticut, common witch hazel blooms from late September through early November, depending on such conditions as altitude and direction of exposure. At the same time as the delicate, light-yellow, spider-like blossoms emerge, the leaves turn a contrasting crisp golden-brown. This display is comforting when we see other plants and creatures preparing for winter; the flowers promise new life.

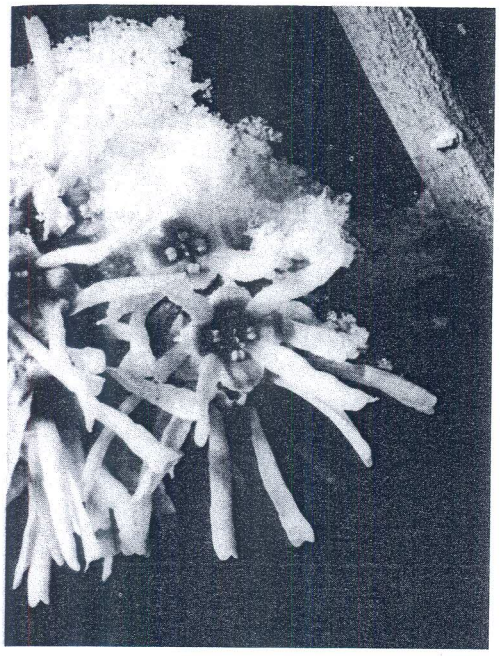
INDIANS of eastern North America used common witch hazel to treat skin ailments, to rub on sore muscles, and as an emetic after poisoning. Even eye disorders were treated with a decoction made from the bark. Some tribes used the black, shiny seeds as sacred beads in ceremonies.

The name "witch hazel" may come from the early Americans who used the forked branches as "divining rods" (or "witching sticks") to locate underground water and precious metals.

The witch hazels (genus *Hamamelis*) are a group of six or seven similar species with a disjunct distribution in eastern North America to northern Central America and eastern Asia. Stretching the American range of the genus is the little known Mexican witch hazel (*H. mexicana*) which has been collected only once.

Witch hazels are characterized by their shrubby to small-tree shape, asymmetrically-based leaves with wavy to scalloped edges, and delicate spider-like flowers. The four yellow to orange, bronze or even red, strap-like petals uncoil during anthesis (flower opening) -- much like a fern's fiddle head in the spring. The winter to spring blooming witch hazels make good natural thermometers; on colder days, petals recoil.

The fruit of all witch hazels is a distinctive, two-parted, woody capsule that forcibly ejects one or two seeds at maturity. The common witch hazel discharges its seed when the



*pring snowfall. (Photo: Carl Retten-*

*Blossoms of the Chinese witch hazel photographed on March 15 in Storrs, showing a honey bee which got too cold to return to its hive. (Photo: Carl Rettenmeyer)*

flowers of the current year are expanding. To see how far the seeds are projected, try this simple experiment: In the autumn, pick a few capsules of the common witch hazel and place them on a table in a room you often spend time in. When the fruit becomes dry, it expels its contents and, if you're lucky, you will hear the seed as it lands somewhere in the room.

IN CONTRAST with common witch hazel's autumn floral display are the late winter through early spring flowering witch hazels. Perhaps the most impressive and most common is the Chinese witch hazel (*Hamamelis mollis*) with flowers emerging in late January (at the Arnold Arboretum in Jamaica Plain, Massachusetts) through March. The similar Japanese witch hazel blooms in the early spring (as early as late February). In the late 1920s, these two Asian diplomats spontaneously hybridized at the Arnold Arboretum. One especially attractive plant was selected from the progeny and has now come to be known as the "Arnold promise" (*H. x intermedia*).

The smaller vernal or Ozark witch hazel of the American Ozark Mountains is infrequently planted as an ornamental. It is winter-hardy, however, and for those who prefer native species and enjoy a pronounced fragrance, the vernal witch hazel retains a special place.

Other native yard and garden members of the witch hazel family (*Hamamelidaceae*) are *Fothergilla* spp., beautiful, spring flowering shrubs from the southeastern U.S., and sweet gum (*Liquidambar styraciflua*), a stately tree that extends as far north as western Connecticut.

THE FORKED BRANCHES of common witch hazel were used as divining rods to locate water and precious metals. Great ritual was often associated with this practice. One author described this process in the following manner: "The 'divining rod' is a Y-shaped section of a branch, with all its leaves removed. It must be new wood and it must have grown upon the tree in such a position that the rising and setting sun looked between the prongs. The two ends of the Y must be held one in each hand, with the point projecting straight forward. The hands must be seven or eight inches apart, with the knuckles down and the thumbs outward. If the rod is in the right hands, as soon as the bearer passes over a vein of metal or an underground spring it will move on its own accord and will twist over till the foot of the Y points toward the ground."

Does it work? Sometimes.

FEW HOME REMEDIES have withstood the test of time as well as aqueous (liquid) witch hazel. This astringent has been used for medicinal purposes for centuries by eastern North American Indians and for the last century by people all over the world. Witch hazel has always been abundant in Connecticut, and nearly all the aqueous witch hazel in the world is manufactured here.

It all started back in Connecticut in the 1860s when Thomas N. Dickinson Sr. met up with Dr. Elmer Whittemore, a drug store owner in Essex. The two began to manufacture witch hazel on a limited basis. Dickinson decided to

*Close-up of blossoms of the common witch hazel* (Hamamelis virginiana) *which is the last tree to bloom in Connecticut, from late September to November. Common witch hazel is native to Connecticut. (Photo: A.L. Bogle)*

expand the market and production and, by the late 1800s, he operated distilleries in Middlesex, New London, New Haven, and Hartford Counties, with the headquarters remaining in Essex.

Dickinson handed down the family business to his two sons, T. N. Dickinson Jr., and E. E. Dickinson who split their father's empire and entered the trade independently, in Mystic and Essex. After four generations of family operation, these companies are no longer owned by Dickinsons. They are still, however, the only two producers in the world.

WHOLE *Hamamelis virginiana* trees are gathered when leafless and dormant by contract cutters who pay to harvest on state-owned land. Trees are cut nearly to the ground, but regeneration occurs rapidly and trees may be cut again in five to 10 years. In addition to the witch hazel harvest of southern New England, in the southern Appalachian Mountains leaves and bark are harvested and exported to Europe for a process different from that of the Connecticut manufacturers.

Aqueous witch hazel is made by chopping a known amount of plant material, processing it in a mechanical extractor, injecting it with steam, and then boiling it in water for seven to 10 hours. The vapor that boils off and then recondenses (distillate) is then mixed with the distillate of ethyl alcohol in a vapor mixing/recondensation chamber. Other tricks are surely used but, as one might expect, Dickinson employees are loyal and do not reveal the proprietor's secrets. The final product includes the extract from 8 and 1/3 pounds of brush per gallon and has an alcohol content of about 15 percent.

Most of the active ingredients of witch hazel are believed to reside in the tree in regions of growth in circumference (cambia). The principal active ingredient that causes the astringent action is believed to be "hamameli tannin."

MANY NURSERIES do not offer *Hamamelis* species because of their relative unattractiveness at the time of the year when most impulse buyers do their shopping. However, a variety of ornamental cultivars of the aforementioned species are available from select nurseries. Species of witch hazels can be ordered from Wayside Gardens, Hodges, South Carolina, 29695-0001 (send one dollar for a catalog).

For common witch hazel, I prefer to acquire my stock from the wild; in our area, it is available to the opportunist. This tree can be found above the high-water mark on the banks of rocky streams and in scattered upland sites with rich, well-drained soil. To find out what witch hazel looks like, come visit the recently transplanted wild specimen of *H. virginiana* at The University of Connecticut campus at the northwest corner of the Torrey Life Sciences Building, on North Eagleville Road. Or, rely on the following combination of easy field characteristics: fall fruits and flowers with four linear petals, and leaves with scalloped edges that taper asymmetrically to the leaf-stalk. ■