

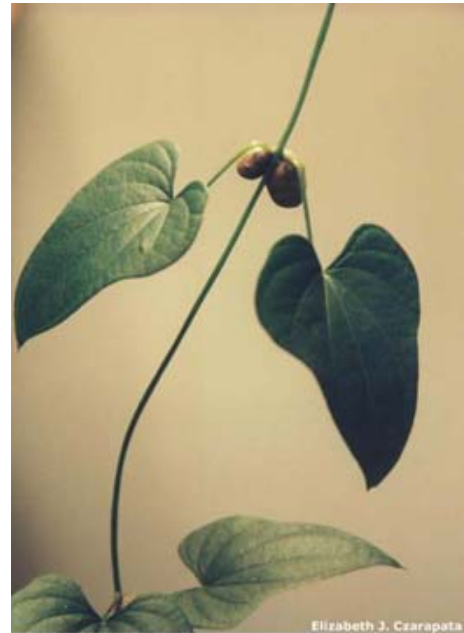


CHINESE YAM (Cinnamon Vine or Air Potato)

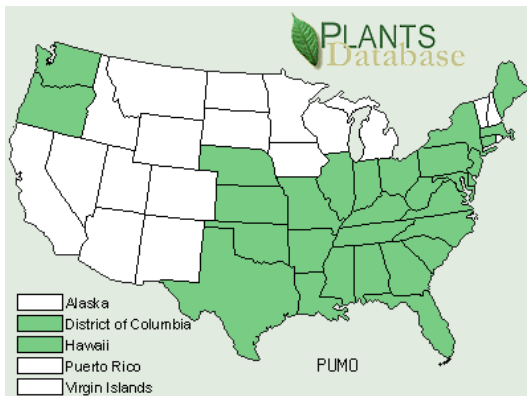
(*Dioscorea oppositifolia*) (Synonym *D. batatas*)

IN BRIEF

This perennial vine smothers nearby vegetation and spreads via small bulbils (aerial tubers) produced where leaves join the stem. Chinese yam is becoming a troublesome invader in many eastern and Midwestern states in riparian areas and bottomland forests as well as along roadsides and fencerows. It has recently been found entering rich upland forests.



Leaves typically in pairs.



DESCRIPTION

Plant Habit. This fast-growing deciduous vine climbs up and over existing vegetation, forming thick mats. It can climb 15 feet high when supported by nearby trees and shrubs, but dies back to the ground in fall.

Stems. Slender vines spiral counter-clockwise (as seen from above) as they grow. (The native yam spirals clockwise.)

Leaves. Leaves are pointed and usually grow in pairs along the stem, but may also be alternately arranged. They generally are heart-shaped, but frequently have indented, narrowed sides. Size ranges from 1.5 to 3 inches long and 2-3 inches wide.



James H. Miller, USDA, UGA1237002

Heart-shaped leaves

Flowers. Inconspicuous small white or greenish-yellow flowers appear on short spikes. Flowers have a cinnamon fragrance and bloom in June and July.

Bulbils. These distinctive reproductive structures resemble small pea- to marble-sized potatoes. They are produced in the leaf axils and are 1/3 to 1.2 inches long. Each is an aerial mini-tuber that readily sprouts roots and leaves. Bulbils are easily knocked loose from the vines. Seeds – which are rarely sided



Small, potato-like bulbils at the leaf axils

Roots. Tuberous family, plants roots that can from the top of

Habitat. Found on the edges of along roadsides commonly found Prefers silt-loam levels, though it tolerates both full sun and deep shade.

Reproduction. Chinese yam spreads vegetatively by dispersing its abundant bulbils. Bulbils can sprout right away or can remain dormant through the winter and establish a new plant the following spring.

roots. Typical of the yam form a large, starchy tuberous reach 3 feet deep. Vines sprout this root in spring, along stream banks and ditches, rich, mesic forests and also and fencerows. Less in the interior of forests. soils and intermediate light

DISTINCTIVE FEATURES

- Bulbils, small potato-like structures, present in leaf axils in summer
- Vines twist or spiral counter-clockwise

LOOK-ALIKES

Several herbaceous vines resemble Chinese yam, but none have bulbils. The native Wild yam (*Dioscorea villosa*) is similar but it twines clockwise as it grows, has consistently heart-shaped leaves and often produces 3-winged seed capsules. The vines of Carrion-flower (*Smilax* spp.), Morning glory (*Ipomoea* spp.) and Bindweed (*Convolvulus arvensis*) have leaves similar in shape to Chinese yam. *Smilax* species produce berries and some have thorns.

LIFE HISTORY AND INVASIVE BEHAVIOR

Chinese yam vines sprout from large, perennial tuberous roots in early spring. Its leafy vines grow quickly and climb over surrounding vegetation, often forming dense shady mats which block light from other plants, shrubs and young trees. Bulbils are present from June through September. They detach easily from the vine and can be dispersed by gravity, flowing water, animals, mowing or human disturbance. The bulbils can sprout new plants or overwinter and remain viable in the soil for many years. The large number of bulbils produced compensates for its lack of seed production. Chinese yam readily invades disturbed habitats with light shade, especially forest edges. Once established at this edge, it can spread into the more shaded interior of high-quality forests.



The native wild yam

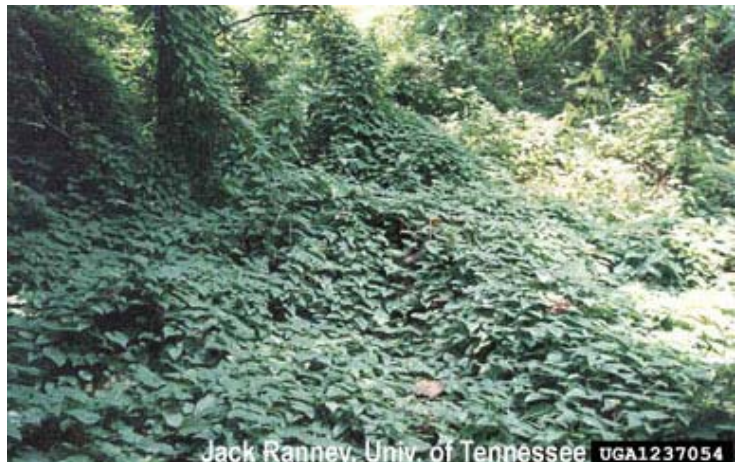
IMPACT ON FORESTRY AND FORESTERS

Dense shade created by vines can inhibit tree germination and seedling development. Young trees may be smothered. Impact is greatest in riparian areas and forest edges. Tangled growth may impede movement of people and equipment through infested areas.

CONTROL METHODS

	Method	Timing
Manual / Mechanical	Mowing / cutting Digging / pulling	Growing season Spring, summer, fall
Chemical	Foliar application (glyphosate, triclopyr)	Late spring to late summer

Mechanical. Mowing or cutting several times during the growing season can be effective for small populations, but it will not kill the plant unless cutting is continued for many consecutive seasons. Mature plants have massive tuberous roots which will resprout vigorously. Young plants may be hand pulled if soil is loose. Digging is also effective but all roots must be removed or resprouting may occur. Manual removal of the bulbils will prevent spread but is labor intensive. They can be gathered by hand or by raking.



Chinese yam infestations can shade out native vegetation, pull down branches and kill small trees

Chemical. Herbicide foliar application is the most effective way to treat large infestations. Apply a 2-6% solution of glyphosate or triclopyr (amine formulation) and a 0.5-1% non-ionic surfactant to the foliage until thoroughly wet but not dripping. This method is most effective when the leaves have fully developed but bulbils have not appeared. Spraying is effective with newly-sprouted bulbils. Resprouts should be treated throughout the growing season.

NOTICE: Use pesticides wisely. Always read the product label carefully. Follow all mixing and application instructions and wear all recommended protective gear and clothing. Contact your state department of agriculture for any pesticide use requirements, restrictions or

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recommendations. Many states require individuals involved in the commercial application of pesticides be certified and licensed.

[Click here](#) for further information on herbicide use.

HISTORY AND LORE

Chinese yam is native to China and was introduced in the 1800s as an ornamental and edible/medicinal plant. Both the tuber and bulbils are edible, and the tuber is the part used medicinally. Its cinnamon fragrance and showy flowers make this plant attractive for horticultural purposes. Chinese yam has become naturalized in at least 23 states. **The species name *oppositifolia* probably refers to the vine twining in the opposite direction** of the native wild yam (*Dioscorea villosa*).

LINKS AND REFERENCES

Websites

Virginia Tech – Cinnamon vine identification factsheet
http://www.ppws.vt.edu/scott/weed_id/diuba.htm

Global Invasive Species Database:
<http://www.issg.org/database/species/ecology.asp?si=296&fr=1&sts>

The Nature Conservancy Element Stewardship Abstract:
<http://tncweeds.ucdavis.edu/esadocs/documnts/diosopp.html>

Invasive Plants of the Eastern United States:
<http://www.invasive.org/eastern/eppc/DIOP.html>

Illinois Nature Preserves Commission – Chinese yam management guidelines
<http://dnr.state.il.us/INPC/VMG/VMG%20Chinese%20yam%20original%202004.pdf>

Books

[Invasive Plants of the Upper Midwest: An Illustrated Guide to their Identification and Control](#), by Elizabeth J. Czarapata, University of Wisconsin Press, 2005.