Bushkiller [*Cayratia japonica* (Thunb.) Gagnepain]

Victor Maddox, Ph.D., Postgraduate Research Assistant, Mississippi State University
John D. Byrd Jr., Ph.D., Extension/Research Professor, Mississippi State University
Randy Westbrooks, Ph.D., Biological Researcher, U.S. Geological Survey

Fig. 1. Bushkiller grows on a white pine with English ivy.

Fig. 2. Bushkiller has small orange or salmon-colored sterile flowers.

Fig. 3. Bushkiller has compound leaves with five leaflets and alternate leaf arrangements.

Introduction

Problems caused

Bushkiller [*Cayratia japonica* (Thunb.) Gagnep.][Syn. *Causania japonica* (Thunb. ex Murray) Raf.; *Cissus japonica* (Thunb. ex Murray) Willd.; *Cissus tenuifolia* F. Heyne ex Planch.; *Cissus tenuifolia* F. Heyne in Wall.; *Columella japonica* (Thunb. ex Murray) Merr.; *Vitis japonica* Thunb. ex Murray; *Vitis tenuifolia* (F. Heyne) Laws in Hook.f.] is an evergreen to deciduous, perennial woody vine native to southeast Asia and Australia. The extent of its invasion is not clear, but new locations have been reported and efforts are underway to map and monitor its spread.

Regulations

Bushkiller is not regulated in the United States, although there is interest. It continues to spread in the MidSouth, especially Louisiana.

Description

Vegetative growth

Bushkiller is a high-climbing vine that has tendrils, similar to grapes. Vines can be somewhat fleshy. Roots are also fleshy and can produce many adventitious shoots especially when cut or disturbed. Leaves are compound with five leaflets and alternate leaf arrangement. Leaves vary in size, but tend to be around 5 inches long and slightly less in width. Leaflets are smooth and shiny with serrate leaf margins.

Flowering/fruiting

The small salmon- or orange-colored flowers are orange and born in flat-topped inflorescences. Despite an abundance of potential pollinators, bushkiller is apparently sterile. Normally bushkiller would produce a 2-4- seeded berry. Since flowers are bisexual, the reason for sterility is not clear.

Dispersal mechanisms

Since bushkiller is sterile, it apparently only spreads vegetatively in the United States. More research is needed to understand sterility, since the absence of seed is a key component in limiting the spread of bushkiller.

Spread by

It is spread primarily by humans and possibly certain natural events such as flooding.

Habitat

Vines can climb trees and other structures by tendrils, becoming quite large in the absence of severe cold weather. The weight of the fleshy vines can break tree branches. Foliage can be dense and block out sunlight from plants it grows on. It can also compete for other resources, such as water. It is not clear what ecological communities or plant species are at the greatest risk due to bushkiller in the United States. However, it has shown aggression where escaped and could be a serious invader at least in the southern United States. In cooler climates, such as Zone 7b, plants may freeze to the ground and re-grow from undergrounds roots in the spring.

Distribution

US

Bushkiller is native to Southeast Asia and Australia and reported in Japan, southern China, Indo-China, the Philippines, Taiwan, New Caledonia, New Guinea, and Queensland. Bushkiller was cultivated in the United States sometime before 1964, but has escaped in the southern U.S. with known occurrences in California, Louisiana, Mississippi, North Carolina, and Texas. It has survived winters in Zone 7b, although foliage was severely damaged.

MidSouth

In the MidSouth, bushkiller occurs in Louisiana and Mississippi. In Mississippi, its occurrences in new counties continue to be reported. Currently, it has been reported in Jackson, Lincoln, Pike, and Webster Counties in Mississippi. In Louisiana, it occurs at scattered localities but forms dense stands in areas near the Mississippi River from Baton Rouge to New Orleans.

Control Methods

Biological

No biological controls are currently being utilized for bushkiller control.

Chemical

More research is needed on bushkiller control, since there are no label recommendations.

Mechanical

Mechanical controls can be used for bushkiller control, but tend to be expensive and labor intensive. Roots left in the soil can regenerated shoots, thus hand removal must be thorough. Pulling shoots without removing roots can take a long period of time and probably not a feasible means of eradication.

Physical

No physical controls are widely utilized for bushkiller control. Bushkiller grows in both shade and full sun habitats.

References

USDA, NRCS. 2007. The PLANTS Database (http://plants.usda.gov, 6 August 2007). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

More Information

There are 63 species of *Cayratia* A.L. Jussieu distributed mostly in tropical and subtropical Africa, Asia, Australia, and the Pacific Islands. The Genus *Cayratia* belongs to the Grape Family (Vitaceae) and apparently only one species, bushkiller (*C. japonica*), occurs in the continental United States. *Cayratia trifolia* (L.) Domin occurs in Hawaii.

John D. Madsen, Ph.D.
Mississippi State University, Geosystems Research Institute
Box 9652, Mississippi State, MS 39762-9652
Ph. (662)325-2428, jmadsen@gri.msstate.edu
www.gri.msstate.edu