

Japanese Climbing Fern

Lygodium japonicum

By Fred Nation, Educator, Baldwin County

L*ygodium japonicum* is a perennial exotic fern that is native to Eastern Asia, the East Indies, and Australia. Its dense, tangled growth and high-climbing habit make it quite distinctive and easy to identify. The long structures that appear to be stems are actually twining and climbing leaves (fronds) that can grow to about 90 feet in length. The main leaf axis (rachis) is tough and wiry, with short opposite stalks that support the dissected, finely divided leaflets. Some of the leaflets are fertile, with finger-like projections that produce spore-bearing structures (sporangia) in double rows on the underside.

Like other exotic pest plants, Japanese climbing fern is a generalist, able to invade a wide range of habitats, sunny or shady, such as open forests, the edges of creeks, rivers and lakes, newly cleared or timbered land, roadsides, and other disturbed sites. According to the Florida Department of Environmental Protection, it was likely introduced intentionally in Florida in 1932 as an ornamental, where it has escaped cultivation and spread north to North Carolina, and west to Eastern Texas. In Alabama, it has become a major pest plant in the southern part of the state where densities are continually increasing, but the entire state is vulnerable to eventual infestation by this destructive invasive exotic plant. Japanese climbing fern is a quarantined species in Alabama, and transport into or within the state is prohibited by the Code of Alabama, Chapter 80-14-10.

Lygodium japonicum is an environmental disaster in our natural habitats and managed pinelands. It forms dense foliage canopies that overwhelm fencing, and completely cover and shade-out native vegetation. Tangled masses of high-climbing fronds contribute to crown burns by functioning as “fire lad-

ders,” particularly in winter, to conduct destructive fire away from the ground and up into the canopies of trees.

Like all ferns, *Lygodium* produces no flowers or fruits. Reproduction and transport are by means of spores, produced in huge numbers, and spread by the wind. Another possible means of transport is pine straw, which is often used as mulch in landscapes. In fact, pine straw is suspected as a vector for the spread of several noxious weeds, including Japanese climbing fern and cogongrass, *Imperata cylindrica*.

Japanese climbing fern has become a serious pest in recent years because it has no natural enemies in the Southeast, and it is extremely difficult to control. If the fronds are cut, burned, or otherwise damaged, the underground stem (rhizome) will quickly sprout replacements. Chemical herbicides are expensive and labor-intensive, but if used correctly, they are safe, and often chemicals offer the only realistic solutions for the control of pest plants that would otherwise severely damage our native and cultivated flora.

An excellent resource for detailed information on the control of *Lygodium japonicum* and other destructive exotic plants is: *Nonnative Invasive Plants of Southern Forests, a Field Guide for Identification and Control*, by James H. Miller, Research Ecologist, USDA Forest Service. This publication is available online at: www.invasive.org/eastern/srs/.

Unfortunately, Japanese climbing fern is a world-class invader, and it is here to stay. To be successful, any invasive exotic control program must be a long-term, multi-year effort. But, with persistence and an effective plan-of-action, we can limit the damage that this highly destructive exotic plant causes to the fields and forests of Alabama. ♣



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