Old World climbing fern is a non-native vine that is rapidly invading flatwoods, and hardwood and cypress swamps of southern and central Florida, and it is moving north. Since 1993, the area infested in Florida has grown to nearly 210,000 acres. (A related species, Japanese climbing fern - *Lygodium japonicum* - is spreading south into central Florida, from the north.) Old World climbing fern smothers plants, including understory and canopy trees, and it creates thick mats of plant material on the ground. It is flammable and carries fire into the canopy and across wetlands. Land managers and property owners should be vigilant for these weeds. Early detection and elimination can significantly reduce control costs and efforts.

**Find it . . .**

**How to Identify Old World Climbing Fern:** Ferns never have flowers; they reproduce by spores. Fern spores are nearly invisible and easily spread by wind. When the plant is fertile, the spores are on some of the leaflets, which means that at different times a plant can have two leaflet forms: “sterile” and fertile. When fertile (at left on the picture below), the edges of the leaflets are fringed with tiny lobes of in-rolled leaf tissue that cover the spore-containing structures. When sterile, the leaflets are oblong or lance-shaped, and slightly heart-shaped at the base where the stalk connects. Many leaflets make up a leaf, which is 2-5 inches long, and many leaves make up the “frond.” A frond can grow and twine to 120 feet long. The above-ground stem is dark brown and wiry, and quickly forms thick horizontal and vertical mats.

**Lygodium microphyllum leaves—on the left are the fertile ones; the spores are along the edges.**

**Where to Look:** Old World climbing fern most commonly occurs in moist habitats, but also grows in shallow water and dry areas. Cypress wetlands, tree islands, floodplains, wet prairies, marshes, hammocks, edges of waterways, roadside ditches, and disturbed corridors are common habitats. Old World climbing fern has been found as far north as Hernando, Clay and Flagler Counties, with two infestations in Duval and St Johns Counties, and south to the Keys. Because it produces millions of spores that spread by wind, water, and even animals, people and equipment, new infestations can arise great distances from existing populations.

**. . . Report it . . .**

If you think you have this plant on your property, please contact the Florida’s Institute of Food and Agricultural Sciences (UF/IFAS). Call the UF/IFAS Center for Aquatic & Invasive Plants at 352.392.1799, call your local Extension Agent, or go to plants.ifas.ufl.edu/education/whatisit.html.
The application of herbicide is the most common method of controlling Old World climbing fern. Cutting vines will result in death of the vines above the cut location, but will not kill the rooted portion of the plant. Regrowth will generally occur from roots, even after burning. Flooding does not kill established vines but seems to prevent germination of spores.

For small vines or low-growing patches: Pull out by the root, if possible, and dispose (see Disposal explained below), or spray the leaves until wet with a herbicide (see Herbicides instructions below).

For large patches climbing into trees: Cut the plant at waist height ("poodle cut"), using a stick to pull vines away from underlying vegetation that you do not want to damage. Cut enough of the plant so that you leave a gap of 10-12 inches between the upper and lower portions of the vine. The plant will die above the cut, although it may still release spores. Treat the remaining rooted portion of the plant with a herbicide as described below.

Herbicides: Spot treatments are usually made with a backpack sprayer or other handheld sprayer. For best results, apply herbicides when plants are actively growing and not stressed by environmental conditions such as drought, flood or frost. Treat as much of the green parts of the plant as you can, spraying the leaves until wet. Use a herbicide that contains the active ingredient glyphosate (3-4 lb active ingredient per gallon) or metsulfuron methyl. Glyphosate products are usually applied at a concentration of 2.0% (volume of herbicide/volume of diluent). Metsulfuron methyl is applied at an equivalent of 2 oz of product (60% active ingredient) per 100 gal (0.6 g/gal). The two herbicides are also often applied together. Plants treated with glyphosate alone will begin dying within three weeks, while plants treated with metsulfuron methyl may take several months. If the ferns are in water or near water—where herbicide may end up directly in the water—you must use a product that is registered for use in aquatic sites.

Remember: Federal law requires that anyone who applies a herbicide reads the entire label first and follows the label instructions. Also, most herbicides are not selective, so be careful to keep herbicide only on target plants!

This flyer was paid for by a grant from the Florida Exotic Pest Plant Council (FLEPPC) Kathy Craddock Burks Education and Outreach Fund. Other resources for photos and plant information include: 1) www.fleppc.org (and click Plant Lists); 2) www.plantatlas.usf.edu (and type Lygodium in the Search box); and 3) http://edis.ifas.ufl.edu/AG122 for the publication “Natural Area Weeds: Old World Climbing Fern (Lygodium microphyllum)” by Kenneth A. Langeland.