



Florida Department of Environmental Protection

WEED ALERT

Old World climbing fern

(*Lygodium microphyllum*)

Old World climbing fern is an aggressive non-native invasive fern of moist habitats in southern Florida. This rapidly spreading fern invades new areas without the need of habitat disturbance and often completely dominates native vegetation by forming a dense canopy. The fern, first found to be established in 1965 in Martin County, now infests more than 200,000 acres in southern Florida.



A Lygodium canopy completely dominating native vegetation



Lygodium acting as a fire ladder into the tree canopy

Although primarily a weed of public conservation areas, Old World climbing fern infests residential landscapes, horticultural nurseries,

rangelands, and other managed lands near infested natural vegetation. The fern's ability to grow up and over trees and shrubs and to form dense horizontal canopies allows it to cover whole communities of plants reducing native plant diversity. Old World climbing fern can grow in bald cypress stands, pine flatwoods, wet prairies, saw grass marshes, mangrove communities, and Everglades tree islands. Some Everglades tree islands are so completely blanketed by the fern that it is not possible to see trees and other vegetation beneath the fern canopy. The fern poses management problems for both wildfires and prescribed burns because it can serve as a fire ladder that carries fire into the tree canopy that kills native trees. Also, portions of burning fern can frequently break free and spread fire to surrounding areas. Scientists' estimate that, left unchecked, Old World climbing fern could infest more than 2 million acres in southern Florida by 2014.

Why the Old World climbing fern must be managed:

- ▶ Highly invasive in natural areas
- ▶ Severe threat to Everglades tree island communities
- ▶ A canopy producer that smothers native trees and shrubs
- ▶ Can serve as a fire ladder that carries fire into native tree canopies that normally wouldn't burn
- ▶ The fern is rapidly spreading in southern Florida's public conservation lands



Close-up of the Lygodium microphyllum's convoluted leaflets

Old World climbing fern

Lygodium microphyllum

Synonymy: *Lygodium scandens*, *Ugena microphylla*

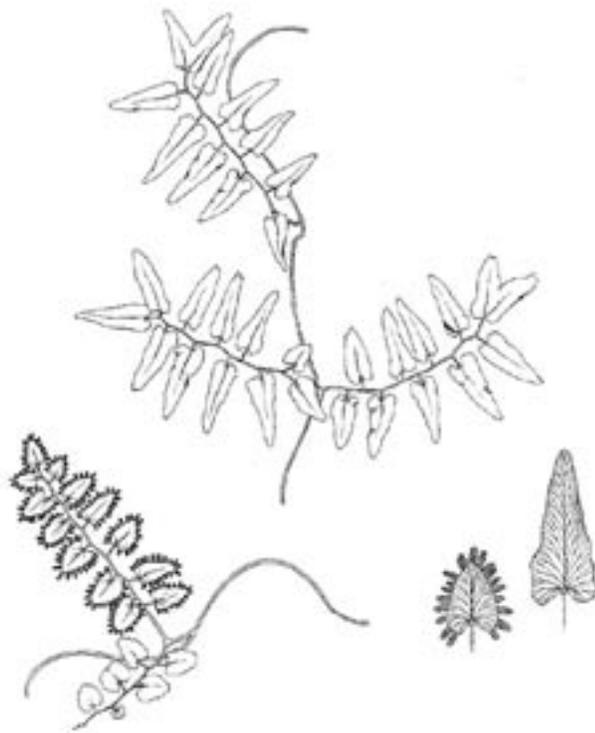
The correct name of Old World climbing fern is *L. microphyllum* but the species is occasionally referred to as *Lygodium scandens*. As many as 40 species have been placed in the genus *Lygodium*, but a recent revision has reduced this number to 26. *Lygodium japonicum*, another invasive species in the southeastern United States, has leaflets that are more dissected and lobed than those of *Lygodium microphyllum*.

 **Leaves:** Twining fronds of indeterminate growth to 30 m (90 ft) long. Leafy branches off main rachis (constituting the pinnae) once compound, oblong in overall outline, 5-12 cm (2-5 in) long. Leaflets (pinnules) usually unlobed, stalked, articulate (leaving wiry stalks when detached); leaf-blade tissue usually glabrous below; fertile leaflets of similar size, fringed with tiny lobes of enrolled leaf tissue covering the sporangia along the leaf margin.

 **Stems:** Fern with dark brown, wiry rhizomes forming layered mats or canopies over existing vegetation.

 **Flowers:** None. Ferns are a spore-releasing class of vascular plants.

 **Spores:** Many thousands of tiny spores released per plant and carried by wind, dust, animals, clothes, and equipment.



Photos and illustration courtesy of: Center for Aquatic and Invasive Plants, University of Florida

LOOK FOR FIRST:

Tangle of wiry, twining fronds

Fern-type leaflets

Sporangia under curled leaflet margins

Distribution - Native to Africa to Southeast Asia, South Pacific islands, and Australia. In Florida, most common in southern Florida but spreading into central Florida.



Reference: R.W. Pemberton, J.A. Goolsby, and T. Wright. 2002. Old World climbing fern. In: Van Driesche, R., et al., 2002, *Biological Control of Invasive Plants in the Eastern United States*, USDA Forest Service Publication FHTET-2002-04, 413 p.

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