

# *Lygodium microphyllum* (Cav.) R. Brown



**Common Name:** Old World climbing fern

**Synonymy:** *Lygodium scandens* (L.) Sw., *Ugena microphylla* Cav. (sometimes placed in Schizeaceae, ray fern family)

**Origin:** Africa to Southeast Asia, south Pacific islands, Australia

**Botanical Description:** Fern with dark brown, wiry rhizomes and climbing, twining fronds of indeterminate growth, to 30 m (90 ft) long; main rachis (leaf stalk above petiole) wiry, stemlike. Leafy branches off main rachis (constituting the pinnae) once compound, oblongish in overall outline, 5-12 cm (2-5 in) long. Leaflets (pinnales) 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.

**NOTE:** May be confused with *L. japonicum*, whose pinnae are often twice compound (see preceding page).

**Ecological Significance:** Considered a principal agricultural weed in Malaysia and present as a weed in Vietnam (Holm et al. 1979). Reported from Florida natural areas of Broward, Highlands, Lee, Martin, Palm Beach, and Sarasota counties (FLEPPC 1996). In 1993, infested 1,233 acres (11% of the area) of Jonathan Dickinson State Park and the Loxahatchee National Wild and Scenic River, including many acres of cypress swamps (Roberts and Richardson 1995). By 1995, infested 17,000 acres (12% of the area) of the Loxahatchee National Wildlife Refuge (Palm Beach County), blanketing entire tree islands and even clambering over sawgrass in standing water (Jewell 1996). Poses management problems for both wildfires and prescribed burns because growth into canopy creates an avenue for fire to spread where swamp waters have usually provided a natural barrier. Such crown fires have caused loss of some canopy trees as well as loss of native bromeliads residing on tree trunks (S. Farnsworth, Palm Beach County, 1995 pers. comm.; Roberts 1996).

**Distribution:** In Florida, documented as invading hardwood hammocks, mesic flatwoods, forested swamps, wet flatwoods,

hydric hammocks, floodplain forests, strand swamps, and ruderal communities. Center of dispersal in Florida reported by Beckner (1968) and Nauman and Austin (1978) as Loxahatchee River Basin in southern Martin and northern Palm Beach counties. Herbarium specimens now recorded from 20 counties as far north as Volusia County on the east coast and Hillsborough County on the west coast, south through the peninsula to Miami-Dade and Collier counties (Wunderlin and Hansen 2004). Has also been reported in natural areas from Seminole, Pinellas, Indian River, and Okeechobee counties (FLEPPC 2005). Widespread in Old World tropics from Africa and India to Malaysia, and in Australia from Ryukyu Islands south to New South Wales (Singh and Panigrahi 1984, Tagawa and Iwatsuki 1979).

**Life History:** Reproduction occurs during an alternation of generations between sporophyte and gametophyte life stages. Fertile pinnae house spores within sori which, upon release, may germinate into prothallia given suitable environmental conditions (Hutchinson et al. 2006). *Lygodium* spores have lignified walls, which contribute to long-term viability (Tryon, 1999 pers. comm.). Spores may remain viable for four years or more following release from sori (Mike Lott, pers. comm.). Wiry rhizomes able to accumulate into dense mats 1 m (3 ft) or more thick above native soil (J. Street, Palm Beach County, 1996 pers. comm.). Vegetative growth and production of fertile pinnales continuous throughout year. Can germinate from spores in 6-7 days, with 5-month-old spores still having an 80% germination rate (Brown 1984). Fertile pinnales usually produced where plant receives sunlight, with such exposed locations also aiding windborne dispersal of the spores. Often establishes first at pineland/wetland ecotone. Usually killed back by fire, but not eliminated (Maithani et al. 1986). Hutchinson et al. (2006) has developed a comprehensive management plan for the species, which is available at the FLEPPC Web site ([www.fleppc.org](http://www.fleppc.org)).