

PRECISION PULLING:

Federal Invasive Plant Research Lab Helps Broward County Remove Invasive Ferns

By Melissa Smith, Ellen Lake and Patricia Howell

Tucked away between Florida's Turnpike and the burgeoning urban sprawl of Fort Lauderdale lies Broward County's Fern Forest Nature Center, 247 acres that form the flagship of Broward's urban preserve system. Established in 1978 through a municipal bond, Fern Forest preserves 10 distinct plant communities and was designated as an Urban Wilderness Area. Cypress and maple forest communities crop up out of the marl limestone with dozens

of fern species inhabiting the shady, wet understory. Within the abundance of native ferns though, lies an inconspicuous invader that threatens a rare and endangered native fern.

Tectaria incisa (Dryopteraceae), or incised halberd fern, was introduced from South America through the horticulture plant trade in the late 1920s (Gordon and Thomas 1997). It displaces native ferns in cypress understories; in particular, the native and rare broad halberd fern, *Tectaria heracleifolia*. However, *T. incisa* bears a strong resemblance to the congener, *Tectaria heracleifolia*, and often grows intermingled

with it and other ferns in cypress-maple communities. The close resemblance and proximity of *T. incisa* to *T. heracleifolia* makes manual and chemical removal extremely difficult and requires that practitioners have a far higher plant identification skill set than most contractors.

The USDA's Invasive Plant Research Laboratory (IPRL) in Fort Lauderdale, Florida investigates major plant invasions and how to employ biocontrol as part of a comprehensive



Incised halberd fern (Tectaria incisa) can displace the rare native broad halberd fern (Tectaria heracleifolia), to which it bears a strong resemblance. The two ferns often grow intermingled, making management difficult. Here the larger, lighter fronds of T. incisa grow above the smaller, darker fronds of T. heracleifolia.

management plan for plant invasions in Florida. The IPRL and its scientists cooperate extensively with Broward County Parks on several Florida Exotic Pest Plant Council (FLEPPC) Category 1 invasive species (e.g. *Lygodium microphyllum*, *Dioscorea bulbifera*, *Rhodomyrtus* sp.) and sought out Broward County Parks as a site for a volunteer project to commemorate Earth Day 2013. Broward County Parks, under the direction of resource manager, Patricia Howell, identified this as a potential project particularly due to the strong botanical ID skills of IPRL staff.

IPRL staff correctly identified, pulled and removed fifteen 50-L garbage bags of *T. incisa* from an approximately one-acre parcel within Fern Forest Nature Center. Removing *T. incisa* within this patch will allow *T. heracleifolia* to re-establish from pre-existing ferns within the area. Additionally, the skills and effort put forth by IPRL to differentiate between these ferns and to remove *T. incisa* with minimal impact to native species highlights the importance of cooperation between agencies.

References

Gordon, D.R., Thomas, K.P. 1997. Florida's Invasion by Nonindigenous Plants: History, Screening, and Regulation in Strangers in Paradise: Impact and Management of Nonindigenous Species in Florida, eds. D. Simberloff, D. Schmitz, T. Brown. Pp. 21 – 37. Island Press, Washington, D.C.

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Tectaria incisa infestation.