

Additional Report of *Lygodium microphyllum* Mats as a Potential Problem for Wildlife

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Anyone who has attempted to walk through a dense rachis mat of *Lygodium* fern (*Lygodium microphyllum*) knows it can be very difficult, even when using a chainsaw to cut a trail. Darby and McKercher (*Wildland Weeds*, Fall 2002) suggested that heavy infestations of Old World climbing fern could be dangerous to wildlife after the discovery of



white-tail deer bones entangled in the rachis mat of the fern. In September 2006, while conducting herbicide trials on Old World climbing fern in a maple swamp at the Lakeland Wastewater Facility (Polk County), I discovered the empty shell of a male painted turtle (*Chrysemys* spp.). There was no sign of predation on the shell. Old World climbing fern coverage along the area where the turtle was found was >95%, indicating its movement may have been fatally hindered by the rachis mat.

The turtle apparently had been crawling underneath the fern canopy along a small wildlife trail towards a small wetland about 5 m away when it became entangled in the rachis mat. Multiple rachis stems ascending from rhizomes could easily entangle a turtle's legs, neck, carapace, plastron or a combination of these, resulting in death from exhaustion or starvation. Areas within 15-20 m to the north and south of the site did not contain any Old World climbing fern and were dominated by clumping ferns such as cinnamon (*Osmunda cinnamomea*) and royal (*Osmunda regalis*), with many open areas in which a turtle could easily traverse.

Areas with heavy infestations of Old World climbing fern frequently have well-defined wildlife trails and tunnels utilized by wild hogs, raccoons, and possibly small mammals (Daniel W. Clark, M. S. Thesis, Univ. of Florida, 2002). While large mammals can probably forage or move about in heavy infestations of Old World climbing fern when not threatened by predators or fast moving fires, it is unlikely that slower moving, less mobile species such as turtles could navigate through the thick rachis mat. Additionally, the extremely high temperatures of fires involving Old World climbing fern could result in increased mortality as wildlife becomes trapped in the rachis as they attempt to flee or seek refuge in burrows, wetlands, etc. Other possible effects include the alteration of habits and movement patterns due to the almost impenetrable rachis, and a decrease in wildlife utility due to the competitive displacement of native plant and animal species used for food and habitat.

Though observations are limited, this and Darby and McKercher's report offer some evidence that Old World climbing fern can potentially result in wildlife mortality. No other documentation is known. However, knowing the difficulty humans have in walking through Old World climbing fern, it is likely that, at a minimum, heavy infestations of the fern have a deleterious effect on the movements of some species of wildlife.

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