



NCDA&CS

Plant Industry Division Plant Protection Section

PEST ALERT

Wooly Frogs Mouth

Philydrum lanuginosum Banks ex Gaertn.

Commelinales: Philydraceae



Woolly frogs mouth (*Philydrum lanuginosum*) is an invasive weed that was found to be growing in Pender County, NC on August 3, 2016. The plant was concurrently identified by scientists at North Carolina State University and the United States Department of Agriculture. This is the first reported find of this weed in the U.S., which is outside of its native range. The plant is commonly cultivated as an aquatic plant in Australia, and seeds and plants are readily available for purchase online. Officials were notified about the presence of the plant after biologists with the Wildlife Resources Commission checked the pond for populations of the rare Gopher Frog. Biologists noted that the plant had rapidly overtaken an artificial pond located near the Holly Shelter gamelands. The pond was dug between 2005 and 2010 and the population of wooly frogs mouth is known to have been in place since 2013. Photos of the pond dating from 2013 show just a few isolated plants along the margin of the pond, but the current population is much higher.

Identification

Wooly Frogs Mouth is an herbaceous, perennial, aquatic plant that can grow between 20 and 70 inches tall. The spongy flat leaves are linear and grow between 11 and 28 inches in length. Many yellow, bilateral and symmetrical flowers are produced on a simple spike, and are self-pollinated. Each flower only blooms for one day, and each "pod" on the fruiting structure contains hundreds of tiny seeds. The seeds were observed floating in water, and will germinate when conditions are right. The NCDA&CS lab was able to successfully germinate some of the seeds just days after they were collected, with no dormancy requirements. This plant has short rhizomes and a fibrous root system. The plant prefers full sunlight to 50% shade, and can grow in up to two feet of water, but is mostly a marginal plant that prefers to grow in coastal and inland climates.



Geographic History

Wooly Frogs Mouth is native to tropical Asia (India, Malaysia, Myanmar, Papua New Guinea, Thailand, and Vietnam), three provinces in China, and two in Japan. This plant also grows in northern Australia, Palua, and Taiwan. It appears that the plant is easily obtained in Australia, and is a preferred plant by those in the aquatic plant community because it is native. Plants and seeds are readily available online in Australia, as well as other e-commerce sites such as eBay.



Spread and Impact

This species is a self-pollinating, aquatic weed that produces thousands of dust-like seeds that are dispersed by water. The seeds can also be dispersed through other mediums such as birds, wind, other animals, or even by people using the water for recreational activities. Seeds can readily germinate and will float in a water body until they find a suitable area to grow. The NCDA&CS lab was able to successfully germinate some of the seeds just days after they were collected, with no dormancy requirements. Woolly frogs mouth appears to be quite aggressive in aquatic ecosystems, and likely out-competes other desirable wetland vegetation.

Others have reported that this plant is present in rice fields in Asia, and is considered a weed in Cambodia, Myanmar, Laos, Malasia, Thailand and Vietnam. It is also considered a weed of plantation crops in southern Thailand. Anecdotal reports note that this plant may be toxic to cattle and freshwater turtles.

Current Situation

Since North Carolina is the first state to have reported this species; it is unknown if other naturalized populations exist in the US. It has been cultivated in several University and botanical gardens in the US (Santa Barbara Botanic Garden, The University of Connecticut, The Missouri Botanical garden and California State University at Chico). A weed risk assessment was completed by the Plant Protection and Quarantine group associated with USDA-APHIS. Their assesment concluded that this plant is High Risk for Impact and Establishment and Spread in the US. The assesment also estimates that about 27% of the southern coastal region of the United States may be suitable for establishment of this species.

Eradication efforts are ongoing at the Pender county site in NC. Monitoring of this site will continue for several years. Other ponds in the area are being inspected for additional populations of the plant.



WHAT TO DO:

Your help is needed to help us find new infestations of this plant. If you think that you have seen this plant, please contact the NCDA&CS Weed Specialist, Dr. Bridget Lassiter, by phone (919)707-3749 or by email Bridget.Lassiter@ncagr.gov. Alternatively, you may report a potential plant pest to the NCDA&CS by calling our hotline at 1(800)206-9333 or via email at newpest@ncagr.gov.