

## Dog Fennel

*Eupatorium capillifolium*

Dog Fennel is a member of the Aster family and is native to Florida. It is a flowering, perennial, wetland plant commonly found in flatwoods, marshes, and wet disturbed sites throughout the state.

The *fennel* part of the name comes from the physical resemblance of Dog Fennel's leaves to the Mediterranean herb fennel, *Foeniculum vulgare*, a member of the carrot family. Both have very thin feathery leaves and produce a pungent odor when crushed. Similarities end there.

The edible, Mediterranean fennel contains non toxic oils while Dog Fennel contains chemical defense toxins.

The *dog* part of the name probably comes from these insect repellent chemicals (alkaloids) that have been isolated from the plant, so it follows that planting Dog Fennel in a dog pen and around a dog house might help control fleas and ticks.

The strong odor is released when the leaves are crushed or the plant is pulled out of the ground. Some people like the smell while others don't.

Mosquitoes generally don't like it. Native Americans used this perennial to repel them, and some people still use it today.

While it repels some insects, other insects take advantage of Dog Fennel's chemicals.

Safe sex for Scarlet-bodied Wasp Moths means avoiding being eaten by predators while mating. So the male moth, in order to protect his intended during courtship, feeds on Dog Fennel just prior to mating and stores up insect repellent alkaloids in a special "bundle." When he finds a mate, he covers her with a bridal veil of poison, says William Conner, professor of biology at Wake Forest University. The moths are immune to the toxin, but the poisonous cloud prevents predators from spoiling the wedding of the insect pair, and beyond. Even the eggs retain some protective chemical.

There is much confusion surrounding Dog Fennel. Some human foragers



and herbalists love it, using the foliage, in small quantities, as a spice. Some sources even list it as edible.

It is also useful for lost hunters to recognize, because the dried down from the flowers and foliage makes great tinder to start a fire.

Others, especially livestock farmers consider this plant poisonous and a nuisance. The major culprit is an alkaloid called pyrrolizidine. As a general rule, alkaloids are bitter-tasting compounds. This one in significant quantities can seriously damage the liver. Leaves also contain low levels of tremitol, which causes dehydration when ingested by cattle.

For wildlife, toxicity problems are uncommon since Dog Fennel has poor palatability – even deer don't like it.

Some references and people refer to it as Wild Chamomile, which is one reason why using common names of plants can be dangerous. Brewing a tea from it is not a good idea for people who value their livers.

Dog Fennel is useful only when used externally. In addition to deterring biting insects, the oils in the foliage can soothe sunburn and other skin irritations and can be applied topically to treat bites of insects.

Dog Fennel is a short-lived perennial with a thick woody base. Its multiple stems are vertically growing and multi-branched in the upper flowering

portion, while hairy or sometimes smooth below. The color is more reddish-purple toward the base. Dog Fennel leaves are divided once or twice into fine linear segments.

Dog Fennel can grow to six or seven feet tall and can take over an area if not controlled. It grows best on moist fertile soils, invades quickly, tolerates dry conditions, and does well on sandy soils. It also tolerates a wide pH range. Its leaves are hairless, but stems are quite hairy or fuzzy.

It is a summer bloomer and the small, white blooms, *center column lower left*, are hermaphrodite, having both male and female organs. The plant is primarily wind pollinated (fancy word: *anemophily*) as are many grasses, sedges, and rushes.

Other anemophilous plants include Slash Pine with its heavy yellow pollen in the spring and trees in the oak, hickory, and walnut families.

Pollen from these plants tends to be smaller and lighter than pollen from insect pollinated plants and has very low nutritional value to insects. However, sometimes insects gather pollen when higher protein pollen from their preferred plants is scarce.

Queen butterflies are often seen visiting the Dog Fennel blooms in the late summer.

Flowers of wind-pollinated plants tend to be smaller, less showy, and less aromatic than those of insect-pollinated plants because they don't need to attract pollinators.

The flowers produce small seeds, *center column lower right*, that are surrounded with hairs, similar to dandelion seed, allowing an effective dispersal by wind. Therefore, bare areas in pastures are ideal environments for windblown seed to become established.

In addition to growth from seed, Dog Fennel can spread from underground rootstocks. These rootstocks arise from the main taproot and grow laterally in all directions. This process can result in the production of distinct plant colonies in only three years.