

# Hawaiian Plant Threatens South Carolina Dunes

Beach vitex (*Vitex rotundifolia*), is a sprawling, woody shrub native to the beaches of Hawaii and Korea. It was introduced to the South Carolina coast in the 1980s, to control erosion, and to function as a salt-tolerant, fast-growing landscape plant. Today, it appears to be taking over primary beach dunes, and threatening native plants and animals including sea oats (*Uniola paniculata*), sea beach amaranth (*Amaranthus pumilus*), sweet grass (*Muhlenbergia filipes*) and loggerhead sea turtles. Beach vitex has received recent recognition in state and local newspapers, being described as “a predatory plant”, “a killer of sea-turtle nests”, and the “kudzu of the coast”. Luckily, major efforts are underway to document the occurrence and spread of the plant, to increase public awareness regarding its’ potential invasiveness, and to explore methods of control while restoring native beach dune vegetation.



Also known as chasteberry, kolokolo kahakai, or Monk’s pepper (as well as numerous other Hawaii’n names), beach vitex typically grows to 6-8 feet in diameter and 6 inches to 2 feet tall, but can reach 4 feet

height and 12 feet in width when protected from wind and salt spray. The round leaves are gray-green to silvery and 1 to 2 inches long and have a spicy fragrance. Beach vitex is in the plant family Lamiaceae, the mint family, though in Radford’s flora you’ll find it in the family Verbenaceae, with plants like lantana. *Vitex* is a genus of about 250 species of trees and shrubs, ranging from tropical to temperate distribution. Only two non-native species of *Vitex*, both widely sold as ornamentals, are known from the Carolinas. The flowers are typically 1 inch in width, bluish purple in color, and are produced in small clusters at the ends of the

branches throughout the growing season. The round fruits are about ¼ inch in diameter and bluish purple to black when ripe. Beach vitex appears to thrive in full sun, sandy soils, and moderate temperatures.

Beach vitex berries have been known since ancient times, for their medicinal properties, particularly as a female remedy. Roman wives whose husbands were abroad with the legions spread the aromatic leaves on their couches to reduce sexual desire. During the Middle Ages, beach vitex became a food spice at monasteries, where it was called Monk's pepper, or Cloister pepper. In Europe, it was known as an important remedy for controlling and regulating the female reproductive system, to control acne in teenagers, to ease menopausal changes, and to ease pain during the birthing process. Beach vitex has the effect of stimulating and normalizing pituitary gland functions, especially its progesterone function.

Though introduced to SC in the 1980's, it was first discovered to be "invasive" i.e. reproducing and thriving outside of where it had been planted, a couple of years ago. Betsy Brabson, sea turtle volunteer observed beach vitex on dunes in front of several beach houses in Georgetown County, and found new beach vitex seedlings on the



undeveloped Hobcaw Beach south of DeBordieu. Last year, Betsy documented that the plant was indeed spreading when she counted 167 new plants in a 4/10ths of a mile stretch in DeBordieu beach heading down towards Hobcaw beach. Betsy and other sea turtle volunteers have since observed the plant spreading in or near turtle nesting areas, where its fibrous roots have the potential to trap turtles and destroy eggs.

Documentation of potential impacts of this plant to the natural dune ecosystem is ongoing. In addition to impacts on sea turtles, beach vitex could threaten the federally endangered sea beach amaranth, in places like Huntington Beach State Park, where one beach vitex seedling was recently observed. The fast-growing tap roots characteristic of beach vitex are no match for the fibrous root systems of sea

oats, which are responsible for stabilizing the sandy dunes and keeping the beach from washing away.

Any beach vitex occurring on the dunes, was either planted illegally or arrived there from nearby landscaped yards. It has been observed growing on Pawleys Island, Debordieu, Litchfield, and Isle of Palms. The plant is still being sold in local nurseries, as well as wholesale growers in Texas, Virginia, and Alabama. Planting on the dunes is regulated by the state Office of Ocean and Coastal Resource Management, which requires people to get a permit before planting in dunes under its' jurisdiction. Permits are only granted for planting sea oats, American beach grass, and panic grass, though there is no requirement that other plants be removed.

The SC Native Plant Society is one player in the recently formed "South Carolina Beach Vitex Task Force, comprised of numerous federal and state agencies, research institutions, and non-governmental organizations. The committed group of individuals conducted two organizational meetings, developed several committees, and recently submitted a proposal in cooperation with the SC Exotic Pest Plant Council, for funding through the National Fish and Wildlife Foundation's "Pulling Together Initiative". Additional efforts are underway to document threats posed by beach vitex, and to assess whether beach vitex should be regulated by state or federal noxious weed laws

Dr.Randy Westbrooks, Invasive plant coordinator for the U.S.Geological Survey, will be leading an ecological assessment of beach vitex over the next few months as part of a multi-agency effort to evaluate the spread of non-native invasive plants. Westbrooks works with the Federal Interagency Committee for the Management of Noxious and Exotic weeds, a group of 16 federal agencies, whom developed a process to quickly identify and design plans to control invasive species. Beach vitex will be included as one of 16 pilot programs highlighted nationally to address the early detection of problem plants.

Removing the deep-rooted plant will most likely involve herbicides or digging, which could be tricky in the fragile beach dune ecosystems. The initial focus of the task force or other volunteers, during 2004, will be the hand-removal of seedlings, but only with landowner permission. If you would like to volunteer in inventory, control, or public education efforts, please contact task force leader Jack Whetstone at 843-546-6321 or SC Exotic Pest Plant Council President Robin Roecker at 803-561-4071.