Stephen H. Brown, Horticulture Agent
Joy Hazell, Sea Grant Agent
Kim Cooprider, Master Gardener
Lee County Extension, Fort Myers, Florida
(239) 533-4327 brownsh@ufl.edu
http://lee.ifas.ufl.edu/horticulturenew.htm

Ipomoea pes-caprae

Family: Convolvulaceae

Railroad vine; goat's-foot vine; beach morning glory


S.H.Brown


S.H.Brown

Railroad vine

Synonyms (Discarded Names): *Convolvus pes-caprae; Ipomoea biloba*
Origin: Native to Florida and pantropic
U.S.D.A. Zone: 9-11; 20°F minimum
Growth Rate: Fast
Flowering Months: All year—peaking in May through November
Leaf Persistence: Evergreen
Salt Tolerance: High
Drought Tolerance: High
Soil: Wide range but well-drained
Nutritional Requirements: Low
Major problems: None
Plant type: Perennial vine
Typical Dimensions: 16 inches high with a spread of 30 feet or more
Propagation: Cuttings; seeds
Human hazards: None
Uses: Dune stabilizer; groundcover, beach pathways, along seawalls


S.H.Brown

Natural Geographic Distribution
Railroad vine, *Ipomoea pes-caprae*, is a pantropic vine. It is found on beaches and dunes from Georgia, south along the Atlantic and Gulf coasts to Texas and Mexico and throughout peninsular Florida. It is established worldwide on many tropical beaches including those of Australia and the Caribbean. Its range extends approximately 30° North latitude to 30° South latitude. It does not tolerate prolonged frost conditions.

Ecological Function
The vine, along with sea oats, is often used in beach restoration and stabilization. It is one of the primary colonizers of beaches. It grows well on nutrient-poor, moist, sandy, or calcareous soils. Thus, it is excellent for beachfront properties. It provides habitat for many diverse animal species including gopher tortoise, the endangered beach mice, scrub jay and the threatened kestrel.

Growth Habit
Railroad vine grows rapidly but unevenly. Its common name can be attributed to its ability to send out "tracks" of stolons more than 100 feet long. Stolons are similar to stems except they produce adventitious roots at the nodes and run horizontally rather than vertically. Taproots are deep, sometimes penetrating 3 feet into the soil. This ground-hugger usually grows to a height no more than 16 inches tall but can form a dense groundcover as much as 30 feet across.

Off the beach, railroad vine makes tracks on hard grounds.

The vine forms a thick groundcover on a beach in Barbados.

Morphology and Reproduction

The leaf is simple, alternately arranged, dark green and leathery. They are glabrous (completely smooth, lacking any hairs). The 2.5 to 4 inch leaf blades are on petioles that can reach 6 inches in length. Leaf blades are two lobed and have a clef apex, making them resemble a goat's footprint. The large, pink, purple, or violet flower has five sympetalous (united or fused together) petals. The shape of the corolla is funnelform. The flowers open late in the evening and appear their best early in the morning. They open angular or flattened. When opened they expose a purple star pattern throughout the center of the corolla. By mid afternoon most flowers will have folded and faded. The fruit is a round, dehiscent (split when mature) capsule that opens to reveal four velvety, dark brown seeds, called seabeans, or drift seeds. The seeds are unaffected by saltwater and are sometimes collected after washing up on the beach. The seeds must be abraded (scratched) by sand or otherwise scarified before they will germinate. *Ipomoea pes-caprae* is self-incompatible. Insects attracted to the large nectaries in the showy flowers assist in cross pollination. Primary pollinators include bees, butterflies, moths, flies, beetles, wasps and ants. Propagation is by seeds or cuttings.

Leaf: Simple, alternate, fleshy, oblong, up to 9 inches long, blade often broader than long, often reflexed upward from the midrib, notched at tip and prominently pinnate-veined.

Both leaves and stems exude a watery white sap that may be a chemical protection against insect pests and grazing animals. The sap from the succulent leaves has been used as a first-aid to treat jelly fish stings.

New growth of *Ipomoea pes-caprae*.

The new stem is flexible and up to 0.5 inches in diameter. New petioles have a reddish hue.

The stem ages to a fiberous main artery.

Morning flower

Afternoon flower

Flower: Funnelform, purple corolla tinged with magenta with a central star pattern, nearly 3.5 inches long and 2.5 inches wide; petals fused with scarcely lobed margin.

Flowering season: Year-round flowering in south Florida but more pronounced in summer. Usually few flowers are produced.

Fruit: A brown, 1/2-inch diameter dehiscent capsule containing four seeds.

The capsules are held on elevated pedicles.

Seed: About 1/4 inch long and velvety brown

Dehiscent capsules

Planting and Maintenance Guidelines

Railroad vine should be planted in a well-drained soil. In south Florida, plant from March through October. Space small plants 2 to 3 feet on center and 3 to 5 feet on center for larger plants. Plant with the top of the root-ball slightly below soil surface. Plant in slopes up to 20° and on steeper but stable slopes. Water when planted and periodically during the first weeks after planting if rainfall does not occur. Remove and control weeds. For faster coverage, redirect errant stolons back into the landscape bed. Otherwise the area to be covered may be left sparse. Dense coverage is possible in two to three years on moist well-drained soil. Railroad vine tolerates occasional clippings in the landscape. In the winter and spring months, the plant may appear scraggly but quickly recovers at the start of the rainy season. It is easily out-competed for light if confined in landscape beds with encroaching shade.

White Rust

A white rust, caused by *Albugo ipomoeae-panduratae*, was confirmed on railroad vines growing on Pine Island, Florida, in June. The vine was being used as an ornamental groundcover. The effect of *Albugo ipomoeae-panduratae* on the vine was significant. It was present on leaf, flower and stem. It caused leaf loss, reduction in bloom, and brought about stem dieback. The pathogen is an oomycete similar to Pythium, Phytophthora, and downy mildew pathogens. Most fungicides labeled for any one of these more common diseases and pathogens are likely to be effective for white rust as well. In most cases, products without efficacy on this group will not have efficacy for white rust. Check the fungicide labels for site clearances, because some have landscape clearance and some are for nursery or commercial use only. Recommended fungicides include those with the active ingredients azoxystrobin:methyl, cyazofamid, mefenoxam and pyraclostrobin. Read and follow all label directions.

The symptom of white rust damage appears on top of the leaf as chlorotic patches.

The sign of white rust appears on the same leaf as white spores.

Left: Spores of *Albugo ipomoeae-panduratae* easily accumulate on one's hand. **Right:** Vine dieback.

References

Barnett, Michael R., and David Crewz, editors. 1997. Common Coastal Plants in Florida: A Guide to Planting and Maintenance, University Press of Florida, FL

Nelson Gil. 2003. Florida's Best Native Landscape Plants: 200 Readily Available Species for Homeowners and Professionals. University Press of Florida, Gainesville, Florida

Osorio Rufino. 2001. A Gardener's Guide to Florida's Native Plants, University Press of Florida, Gainesville, Florida

This fact sheet was reviewed by Cathy Feser, Collier County Extension; Jenny Evans, Sanibel-Captiva Conservation Foundation; Peggy Cruz, Lee County Extension Service; John Sibley, Lee County Master Gardener and owner of All Native Garden Center, Nursery & Landscapes, Fort Myers; Keith Bradley, Institute for Regional Conservation, Miami; Dr. Philip Harmon, Plant Pathologist, University of Florida, Gainesville and Dr. Gary Knox, UF Environmental Horticulture, Quincy.