ENH1157

UF UNIVERSITY of FLORIDA
IFAS Extension

Railroad Vine: *Ipomoea pes-caprae*, a Florida Native Plant[1]

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Ipomoea pes-caprae

Family: Convolvulaceae

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


S.H.Brown

The stolons of *Ipomoea pes-caprae* can grow more than 100 ft. long.


S.H.Brown

A new plant growing on the beach.

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 in. high with a spread of 30 ft. or more
Propagation: Cuttings, seeds
Human Hazards: None
Uses: Dune stabilizer, groundcover, beach pathways, along seawalls


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Flower and vine

Natural Geographic Distribution

Railroad vine, *Ipomoea pes-caprae*, is a pantropic vine 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 from approximately latitude 30° north to latitude 30° south. 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 threatened or endangered species such as gopher tortoises, beach mice, Scrub-Jays, and kestrels.

Growth Habit

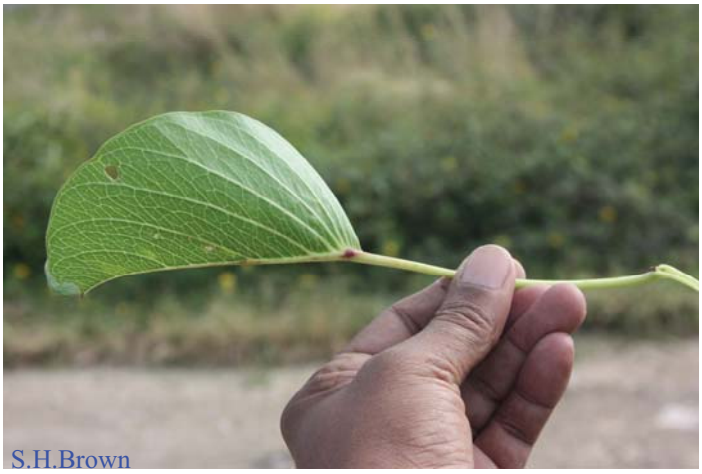
Railroad vine grows rapidly but unevenly. Its common name can be attributed to its ability to send out "tracks" of stolons more than 100 ft. long (http://www.youtube.com/watch?v=7SugFzpB3Go). Stolons are similar to stems, except they produce adventitious roots at the nodes and run horizontally rather than vertically. Taproots are deep, sometimes penetrating 3 ft. into the soil. This ground-hugger usually grows no more than 16 in. high but can form a dense groundcover as much as 30 ft. 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

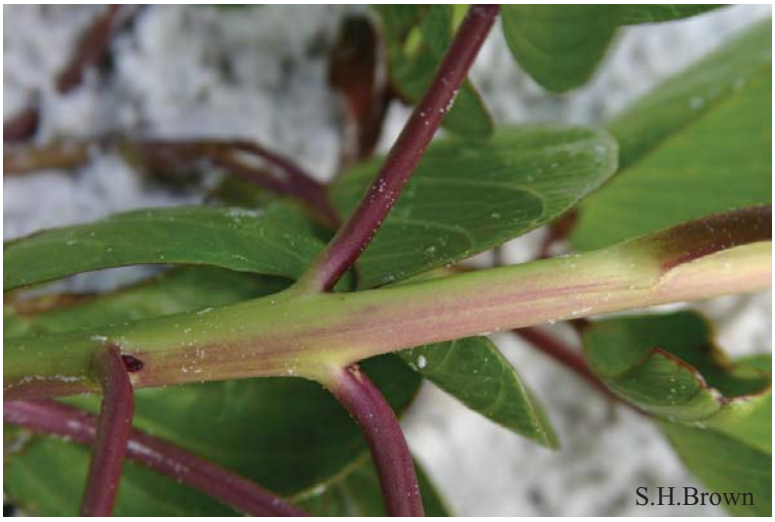
The leaf is simple, alternately arranged, dark green, leathery, and glabrous (completely smooth, lacking any hairs). The 2.5–4-in. leaf blades are on petioles that can be up to 6 in. long. They are two lobed and have a clef apex, making them resemble a goat's footprint. The large pink, purple, or violet 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. Most flowers fold and fade by midafternoon. 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 nectarines in the showy flowers assist in cross pollination. Primary pollinators include bees, butterflies, moths, flies, beetles, wasps, and ants. Plants propagate by seeds or cuttings.



Leaf: Simple, alternate, fleshy, oblong, up to 9 in. 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 jellyfish stings.

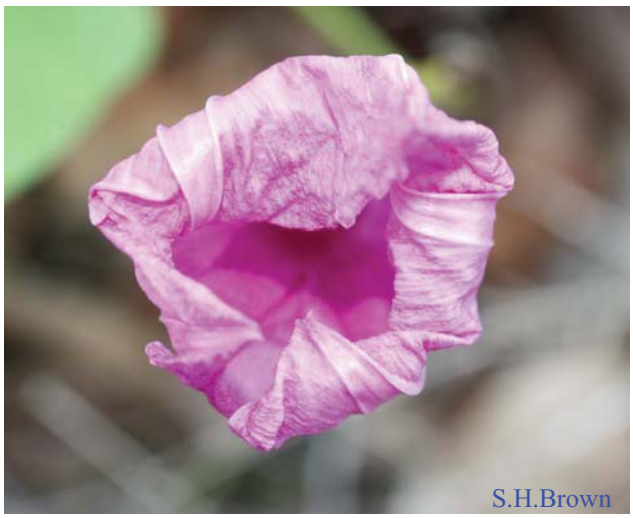
New growth of *Ipomoea pes-caprae*



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

The stem ages to a fibrous main artery.

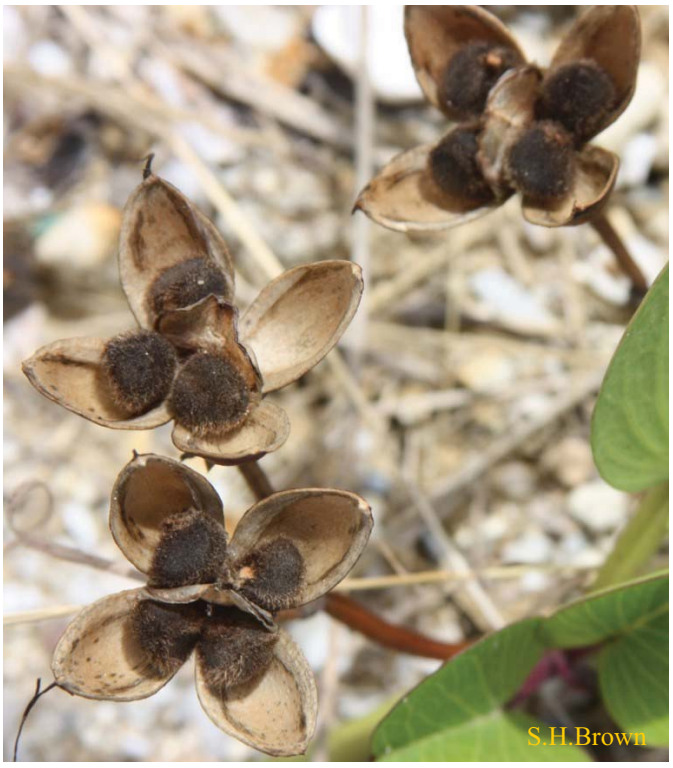
Morning flower



Afternoon flower

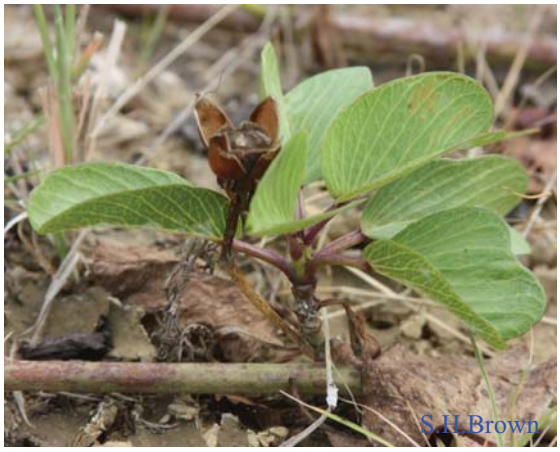
Flower: Funnelform, purple corolla tinged with magenta with a central star pattern, nearly 3.5 in. long and 2.5 in. wide; petals fused with scarcely lobed margin.

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



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

The capsules are held on elevated pedicles.



Seed: About 1/4 in. 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 2–3 ft. on center and larger plants 3–5 ft. on center. Plant with the top of the root ball slightly below the soil surface. Plant in steeper but stable slopes up to 20°. 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 outcompeted 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, bloom reduction, and 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 that are not effective on these pathogens will not be effective against 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.

Clockwise: Spores of *Albugo ipomoeae-panduratae* easily accumulate on one's hand. Vine dieback and infestations on leaf. Flower buds.

References

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