

*Solanum tampicense* [简体中文](#) [正體中文](#)

**System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Solanales	Solanaceae

**Common name** *Solanum tampicense* (English, El Salvador), huistomate (English, El Salvador), wetland nightshade (English), salsita de agua (Spanish), sosumba (English, Belize), aquatic soda apple (English), scrambling nightshade (English), espina de manglar (Spanish), ajicón (English, Cuba)

**Synonym** *Solanum houstonii* , Dunel 1813, non Martyn 1807  
*Solanum quercifolium* , Miller

**Similar species** *Solanum* spp.

**Summary** *Solanum tampicense* is a member of the same genus as the tomato and is native to parts of the Caribbean, Mexico and Central America. In the United States, this shrub has invaded Florida, where it creates impenetrable monocultural stands and climbs over native vegetation in a vine-like fashion. It is found inhabiting cypress swamps and river margins where it spreads most effectively by floating seeds and stem fragments to new locations. *S. tampicense* is invasive because of its high tolerance to sunlight and shading, ability to handle temporary flooding, and prolific seed production.



[view this species on IUCN Red List](#)

## Species Description

*S. tampicense* is a perennial shrub (USDA-NRCS 2002). According to Ramey and Murray (2001), the flowers of *S. tampicense* are white and yellow and tomato-like (being in the same botanical genus as edible tomatoes). Its fruits are pea-sized berries, in clusters of up to 11 berries. The berries turn from green to orange to deep red as they ripen with each berry containing 18 - 50 disc-shaped seeds that are 2mm wide. The leaves are elongate (to 8 - 25cm long, 2 - 7cm wide), with indented edges and star-shaped clusters of microscopic hairs. There are straight prickles on the veins on the upper sides of the leaves and curved prickles underneath. Sprawling stems are up to 1cm wide and 2 - 5m long, and they lack hairs but are covered in curved prickles. The prickles snag and interlock so that plants can form impenetrable thickets that can cover over small trees and bushes to a height of 5m (Fox and Bryson 1998).

## Lifecycle Stages

*S. tampicense* seeds are very durable and tolerant of freezing, drying and passage through a bird's gut; they can survive at least 5 years of burial in wetland soil, and fresh seeds have a 90% germination rate (FLEPPC, 2003).

## Habitat Description

According to FLEPPC (2003), *S. tampicense* can be found in relatively undisturbed wetlands, typically cypress swamps or along river margins. *S. tampicense* grows in shade and full sunlight. It is also somewhat flood tolerant. It sheds its leaves in high water then regrows new ones when the flood recedes and while small seedlings may only tolerate a few weeks of submersion, mature plants can recover after several months. However, the shrub is not tolerant of permanent flooding. *S. tampicense* is susceptible to frost but may re-grow from root crowns.



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FULL ACCOUNT FOR: *Solanum tampicense*

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## Reproduction

According to FLEPPC (2003), *S. tampicense* flowers and fruits emerge in May in Florida if subjected to full sunlight or early fall if subjected to full shade. Sunlight also effects seed production, which can be as high as 247 seeds on one stem in full sunlight but less than 10% of that in shade. Plants can be regenerated from any stem sections that are kept wet and have a leaf or leaf-scar with a healthy bud. Plants can regrow from shoots developing from the root crown, an important recovery mechanism after mechanical damage, freezing, herbivory, etc.

## General Impacts

FLEPPC (2003) explains that *S. tampicense* is capable of forming large, tangled, monocultural stands of many hectares by invading sparsely vegetated areas or clambering over native vegetation. *S. tampicense* is able to create these stands because of its high tolerance to sun and shade, tolerance of temporary flooding, prolific seed production, and seed longevity.

## Management Info

Preventative measures: The major control method in the USA is prevention. *S. tampicense* is listed on the Federal Noxious Weed List (USDA-NRCS 2002).

Chemical: Some populations in SW Florida have been successfully controlled using herbicides approved for use in aquatic habitats such as glyphosate, triclopyr and 2,4-D. However, seeds have been shown to survive burial for at least 5 years, so annual surveys and retreatments may be necessary (Fox pers.comm.)

Biological: According to Cuda *et al.* (2003), *S. tampicense* "is an ideal target for classical biological control." This species tends to form extensive impenetrable thickets in remote, periodically flooded areas that make controlling the plant by conventional means a difficult task. Cutting plants back is ineffective for control because they can resprout from the root crown even after several months of submersion in water. Cuda *et al.* (2003) goes on to state that "field surveys in Florida and in the native range would need to be conducted to discover potential biological control candidates."

**Principal source:** [Solanum tampicense Dunal \(FLEPPC, 2003\)](#)

**Compiler:** National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

**Review:** Alison Fox, University of Florida

**Publication date:** 2006-03-23

## ALIEN RANGE

[6] UNITED STATES

## BIBLIOGRAPHY

8 references found for *Solanum tampicense*

### Managment information

Cuda, J.; Charudattan R.; Gandolfo, D.; Cuda, J.; Mullahay J. 2003. *Tropical Soda Apple, Wetland Nightshade, and Turkey Berry The Bug Network, University of Georgia. Available from: <http://www.invasive.org/biocontrol/23SodaApple.html> [Accessed 8 October 2003]*

**Summary:** An article on biological controls of tropical soda apple, wetland nightshade, and turkey berry.

### General information

Fox A.M. and Bryson C. T. 1998. *Wetland nightshade (Solanum tampicense): a threat to wetlands in the United States. Weed Technology 12:410-413*

**Summary:** Sites listed for Florida, detailed description of the plant, its biology and potential effects. Includes tables comparing the characteristics of this species with nine other prickly *Solanum* species that are found in the southeastern USA.

Abstract available from: <http://www.csa.com/partners/viewrecord.php?requester=gs&collection=ENV&recid=4392858> [Accessed 7 March 2006]



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FULL ACCOUNT FOR: *Solanum tampicense*

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Gentry J.L. and Standley P.C. 1974. Flora of Guatemala. Fieldiana: Botany 24: 122-123

**Summary:** Section on *Solanum houstonii* from flora of Guatemala. Description and names from various countries.

[ITIS \(Integrated Taxonomic Information System\), 2005. Online Database \*Solanum tampicense\*](#)

**Summary:** An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.

Available from:

[http://www.cbif.gc.ca/pls/itisca/taxastep?king=every&p\\_action=containing&taxa=Solanum+tampicense&p\\_format=&p\\_ifx=plglt&p\\_lang=](http://www.cbif.gc.ca/pls/itisca/taxastep?king=every&p_action=containing&taxa=Solanum+tampicense&p_format=&p_ifx=plglt&p_lang=)  
[Accessed March 2005]

[Langeland, K.A. and Burks, K. C \(Eds\) 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. University of Florida. \*Solanum tampicense\*.](#)

**Summary:** Information on plants that pose threats to natural resource areas in Florida.

Available from: [http://www.fleppc.org/ID\\_book/Solanum%20tampicense.pdf](http://www.fleppc.org/ID_book/Solanum%20tampicense.pdf) [Accessed 10 June 2003]

[Ramey V. and Murray A. 2001. Wetland Nightshade Non-Native Invasive Aquatic and Wetland Plants in the United States \[Online Database\] Sea Grant project. Available from <http://plants.ifas.ufl.edu/solan2.html> \[Accessed 20 September 2003\]](#)

**Summary:** A short summary of description of the plant, origin, and details of introduction into Florida.

Standley P.C. 1924. Trees and Shrubs of Mexico (Passifloraceae-Scrophulariaceae). Contributions from the United States National Herbarium 23(4): 1298.

**Summary:** Section on *Solanum houstoni* from flora of Mexico listing names from various countries.

[USDA-ARS \(United States Department of Agriculture, Agricultural Research Service\). UNDATED. National Genetic Resources Program. Germplasm Resources Information Network-\(GRIN\) 2002. \*Solanum tampicense\* Dunal GRIN \[Online Database\] National Germplasm Resources Laboratory, Beltsville, Maryland.](#)

**Summary:** Includes information about regulations, Spanish common names, and distribution.

Available from: [http://www.ars-grin.gov/cgi-bin/npgs/html/tax\\_search.pl?Solanum+tampicense](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?Solanum+tampicense) [Accessed 19 September 2003].