

1. Habit of Tropical soda apple. 2. Immature fruit. 3. Hairy leaves with large prickles. 4. White flowers with reflexed petals



Tropical soda apple (*Solanum viarum*)

Introduced

Not Declared

Tropical soda apple is native to South America (i.e. Brazil, Argentina, Paraguay and Uruguay). This member of the Solanaceae plant family has become naturalised in many other parts of the world and is regarded as a serious weed in the south-eastern parts of the USA.

Distribution

Tropical soda apple was first recorded in Australia in the Kempsey area on the Mid North Coast of New South Wales in August 2010, however it is thought to have been present there for some time. Smaller infestations have subsequently been found in surrounding areas, including at Wingham. In October it was detected at the Grafton Sale Yards and at a property in the Clarence Valley. More recently it has been found in Southern Queensland. Due to the rapid rate of these new detections, it is likely that Tropical soda apple is already present in other parts of eastern Australia.

Description

Tropical soda apple is an upright shrub usually growing 0.5-1 m tall, but occasionally reaching up to 2 m in height. Its stems are covered with numerous small prickles (1-8 mm long) and are also finely hairy. However, both surfaces of the leaves are armed with much larger prickles (3-25 mm long) that are found along the veins. These leaves (6-20 cm long) are borne on thick stalks (3-7 cm long) and their margins are wavy with several rounded lobes. Both leaf surfaces are also densely hairy.

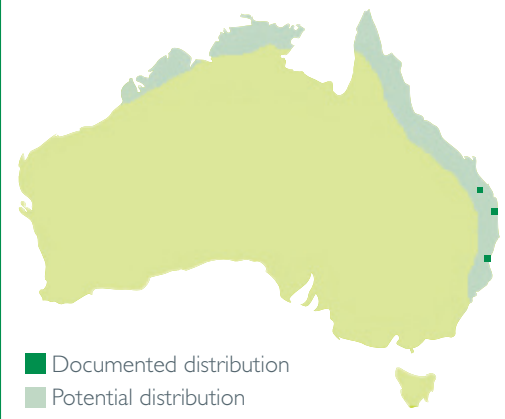
The inconspicuous star-shaped flowers (about 1.5-2 cm across) are produced in small clusters below the newer leaves, with 1-6 flowers in each cluster. They are borne on stalks 3-6 mm long and have five white or greenish-white petals (about 10 mm long and 2.5 mm wide) that are usually bent backwards. The flowers also have five white stamens that are held erect and have slender anthers 6-7 mm long. The rounded fruit (2-3 cm across) are mottled light and dark green when immature, but turn yellow when ripe. They each contain 200-400 small brown seeds about 3 mm across.

Quick Facts

- > A shrub usually growing 0.5-1 m tall with very prickly stems and leaves
- > Flowers in small clusters hidden under the newer leaves
- > Flowers have five white petals that are bent backwards
- > Round fruit turning from mottled green to yellow as they mature

Habitat

In its native range, tropical soda apple grows in grasslands, thickets, and disturbed places. In other parts of the world it has invaded open to semi-shaded habitats, including pastures, open forests, riparian zones, roadsides, and crops.





1. Young plant 2. Scattered infestation in cattle yard.

Reproduction and Dispersal

Tropical soda apple reproduces via seed and can also regenerate from its root system. The seeds are spread by cattle, birds and other animals that eat the fruit. They may also be dispersed by water or in contaminated produce, equipment, soil, etc. Most infestations in Australia have so far been detected in cattle yards or on grazing land, so cattle would seem to be a primary dispersal agent here.

Why is it an Emerging Threat?

This very aggressive species has the potential to spread throughout the coastal regions of NSW and QLD, and possibly into many parts of northern Australia. It reduces biodiversity in natural areas by replacing native plants and disrupts normal ecological processes. It is also unpalatable to livestock, thus reducing the carrying capacity of invaded pastures. Dense infestations of this very prickly plant can also restrict the movement of native animals, livestock and humans. It can also reduce crop yields and is a host for many diseases and pests of cultivated crops.

In the USA it is a Federal Noxious Weed and is known as "the plant from hell". It was first recorded in Florida in 1987, but by 1995 had infested half a million hectares. By 2007 it had spread to nine other states in south-eastern USA.

Control Methods

Individual plants can be manually removed with the aid of suitable tools, but care must be taken to remove all the root material, as plants may regrow from root fragments. Due to the prickly nature of the plant, sturdy gloves and suitable protective clothing should be worn when handling this species.

The herbicide Fluroxypyr (e.g. Starane) has been recommended for control in Australia and is allowed in NSW under APVMA Permit 9907 which expires on the 31 March 2012 (see the APVMA website at www.apvma.gov.au). Triclopyr, Aminopyralid, 2,4-D, Picloram or combinations of these chemicals have also been recommended for control of Tropical soda apple in the USA. In Queensland, these herbicides and Fluroxypyr can be used to control environmental weeds such as tropical soda apple via APVMA Permit 11463 (<http://permits.apvma.gov.au/PER11463.PDF>). Within other state boundaries, it is recommended that you consult any relevant permits or government legislation before applying any of these chemicals.

As with all weed control measures, follow-up is essential in order to kill any re-growth or new seedlings that emerge. In order to avoid spread to new areas, prevent stock from grazing and moving through infested areas. Land managers should also regularly check cattle camps, yards and feral animal haunts as these are likely locations for new infestations.

The control methods referred to in Weed Watch™ should be used in accordance with the restrictions (federal and state legislation and local government laws) directly or indirectly related to each control method. These restrictions may prevent the utilisation of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, Technigro does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

This information has been developed with the assistance of Dr Sheldon Navie. Photographs are also courtesy of Dr Navie. © Technigro Australia Pty Ltd 2010

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Look a-likes

Tropical soda apple may be confused with several other prickly *Solanum* species, including Apple of sodom (*Solanum linnaeanum*) and Giant devil's fig (*Solanum chrysotrichum*). However, Apple of sodom has purple flowers and its leaves are usually very deeply lobed. Giant devil's fig is a larger plant growing 3-5 m tall with larger leaves (17-40 cm long) and its flower clusters contain up to 50 flowers.



Top. Purple flowers of Apple of Sodom

Bottom. Larger leaves and flower clusters of Giant devil's fig.