GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Ipomoea aquatica***

Ipomoea aquatica 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Solanales	Convolvulaceae

Common name

lorenzo (English, Nauru), kongkong (English, Yap), kangkong (English, Ulithi), water bindweed (English), luve ne tombithi (English, Fiji), ota karisa (English, Fiji), wa kumala (English, Fiji), Chinese waterspinach (English), seri (English, Chuuk), kangum (English, Palau), swamp morning glory (English), swamp cabbage (English), aquatic morning glory (English), water spinach (English), aseri (English, Chuuk), kang kong (English), ung-choi (English), seeri (English, Chuuk), lili vai (English, Samoa), kangking (English, Yap), ndrinikava (English, Fiji), akankong (English, Guam), kankum (English, Palau), te kang kong (English, Kiribati), cancon (English, Guam), kankan (English, Guam), kangkun (English, Guam), liseron d'eau (French)

Synonym

Ipomoea repens , Roth
Ipomoea reptans , Poiret
Convolvulus repens , Vahl
Ipomoea subdentata , Miq.

Similar species

Summary

Ipomea aquatica is rich in iron and is used traditionally to treat gastric and intestinal disorders. However, Ipomea aquatica is highly invasive, forming dense mats over the surface of water bodies, such as lakes, ponds, marshes, canals and ditches. It is also found in very moist soils, such as the muddy banks along streams. Ipomea aquatica spreads rapidly from plant fragments and its floating seeds allow effective colonisation of new areas. Aquatic herbicides, whilst generally effective, are not specific enough to be used in many sensitive areas, making eradication very difficult.

view this species on IUCN Red List

Species Description

Ipomoea aquatica is a trailing vine with milky sap. Stems are hollow, up to 3m long or more, rooting at the nodes, floating in aquatic situations." Stone (1970, in PIER, 2003) describes the leaves as being variable but commonly 5-15cm long and 2-10cm wide and oblong-lanceolate (arrowhead shaped) in shape. The flowers are described as being, showy, funnelform like morning-glory blooms, solitary or in few-flowered clusters at leaf axils; petals white to pink-lilac; the fruit as being, an oval or spherical capsule, woody at maturity, about 1cm wide, holding 1-4 grayish seeds, these often short-hairy. Two basic forms (with many cultivars of each) are recognized worldwide for this species "red," with red-purple tinged stems and pale pink to lilac flowers; and "green," with fully green stems and white flowers. A single plant of Chinese water spinach may grow taller than 21m and can branch profusely (Langeland K.A. & Burks K.C, 1999).

Uses
Commonly used as a food plant in Asia (PIER, 2003). Popular among some recent immigrants as a common potherb from the homeland and has been studied in Florida as a vegetable crop. This is because the plant of its rich iron content (Langeland K.A. & Burks K.C, 1999). *I. aquatica* is relatively rich in S-methyl methionine (Vitamin U) and is used traditionally to treat gastric and intestinal disorders. Furthermore it has been found to have insulin-like properties acting as an anti-hyperglycaemic (Malalavidhane, Wickramasinghe & Jansz, 2000).

Habitat Description
Ipomoea aquatica is found in fresh water aquatic habitats (PIER, 2003). *I. aquatica* has been found primarily in canals and ditches but also invades lakes. It grows well in moist soil or in still to flowing waters (Langeland K.A. & Burks K.C, 1999).
I. aquatica dwells in muddy stream banks, freshwater pond and lakes, and marshes. It is confined to the tropics and subtropics zones because it is susceptible to frosts and because it does not grow well when temperatures are below 23.9 degrees Celsius. Because of its prolific growth, this species can invade moist cultivated areas, such as rice and sugar cane fields, and other areas with varying water levels (Fears, UNDATED).

Reproduction
Under good conditions, *Ipomoea aquatica* can produce 190,000kg fresh weight biomass per ha in 9 months. It flowers in the warm months and produces 175-245 seeds per plant during the peak season (Langeland K.A. & Burks K.C, 1999).

General Impacts
Ipomoea aquatica forms dense floating mats of intertwined stems over water surfaces, shading out native submersed plants and competing with native emergents. It is considered the second greatest problem plant in the Philippines, where it tends to overgrow freshwater marginal areas. A common to serious weed in many areas in the tropics (Langeland K.A. & Burks K.C, 1999).
Masses of tangled vegetation obstruct water flow in drainage and flood control canals. They have infested lakes, ponds, and river shorelines, displacing native plants that are important for fish and wildlife. The veins of the plant create dense impenetrable canopies over small ponds and retention basins creating stagnant water conditions that are ideal breeding environments for mosquitoes (Fears, UNDATED).

Management Info
Preventative measures: Sale and distribution of *I. aquatica* is prohibited in Florida, however, the plant is still repeatedly introduced there.
\r\nChemical: According to Schardt & Schmitz (1990, in Fears, UNDATED), aquatic herbicides have been used to control the plant but the results were only temporary. 3-(3,4-dichlorophenyl)-1,1-dimethylurea (DCMU / Diuron) provided acceptable control in dry ditches but also controlled most other adjacent plants, which is unacceptable in areas of high conservation value. 1-1'-dimethyl-4,4'-bipyridylium dichloride (paraquat) and 2,4-dichlorophenoxyacetic acid (2,4-D) have both been shown to have an impact on plant growth (Ninomiya, Oogami, Kino-Oka, Taya, 2003). However as with DCMU, paraquat is a broad spectrum herbicide and would, in many cases, likely impact surrounding vegetation to an unacceptable level. N-(phosphonomethyl)glycine (glysophate) would probably be effective but again is a broad spectrum herbicide. More research needs to be undertaken on the effectiveness of 2,4 D which is a far more selective herbicide.
\r\nBiological: It would appear that biological control has not been attempted in its non-native habitats (Williams, A.E., pers.comm., 2004).

Principal source: *Ipomoea aquatica* (Fears, UNDATED)

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

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ALIEN RANGE

[1] AFRICA
[1] AUSTRALIA
[1] COOK ISLANDS
[1] FRENCH POLYNESIA
[2] KIRIBATI
[1] MAYOTTE
[1] NEW CALEDONIA
[1] PALAU
[1] PUERTO RICO
[1] SAMOA
[1] SOUTH AMERICA
[7] UNITED STATES
[1] AMERICAN SAMOA
[1] BRITISH INDIAN OCEAN TERRITORY
[1] FIJI
[1] GUAM
[1] MARSHALL ISLANDS
[1] MICRONESIA, FEDERATED STATES OF
[1] NORTHERN MARIANA ISLANDS
[1] PHILIPPINES
[1] REUNION
[1] SOLOMON ISLANDS
[1] TONGA
[1] UNITED STATES MINOR OUTLYING ISLANDS

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