



1. Close-up of kidney-shaped leaves. 2. Delicate flowers that have already begun to wilt. 3. Mat-forming habit. 4. Infestation in a concrete drain at Birkdale, Queensland.



Kidneyleaf mud-plantain (*Heteranthera reniformis*)

Introduced

Not Declared

Kidneyleaf mud-plantain is a short or long-lived aquatic plant that grows in shallow water, usually less than 20 cm deep. It is a member of the Pontederiaceae plant family and is native to eastern USA, Mexico, Central America and some parts of South America.

Distribution

This species has spread from cultivation as an ornamental pond plant and become naturalised in South-East Queensland. It was first recorded in this region in late 2007, growing in a shallow concrete drain at Birkdale in the eastern suburbs of Brisbane. It has since been discovered in over twenty sites in the coastal parts of South-East Queensland (e.g. Mt Tamborine and Goodna) and has recently become naturalised in the Sydney region in NSW.

Description

Kidneyleaf mud-plantain forms colonies that usually emerge 10-30 cm above the water surface. The underwater stems produce roots at their joints, particularly where they come into contact with soil, while other stems usually spread across the water surface. The majority of leaves are alternately arranged along the stems, but some are occasionally grouped into clusters (i.e. rosettes). The bright green and glossy leaves are borne on stalks 2-13 cm long and are kidney-shaped (1-4 cm long and 1-5 cm across).

The flowers are arranged in short clusters (i.e. racemes) 1-5 cm long that emerge from two small sheath-like structures. Each cluster contains 2-10 small flowers, which bloom approximately three hours after sunrise and wilt by early afternoon. The delicate white or pale blue flowers have six 'petals' (3-6.5 mm long), with one of the petals having yellow or greenish markings at its base. They also have three stamens, two of which are small with yellow anthers, while the third is longer with a greyish-blue anther. The fruit is a small capsule containing 8-14 tiny winged seeds less than 1 mm long.

Quick Facts

- > Forms very dense mats in shallow water
- > Stems are often rooted to the substrate
- > Flowers open about 3 hours after sunrise and wilt by early afternoon

Habitat

Kidneyleaf mud-plantain forms very dense infestations in shallow, slow-moving waterways and drains less than 20cm deep. It can also grow in roadside ditches and around the edges of lakes and ponds.





1. Infestation in a creek at Goodna, Queensland. 2. Spreading underwater stems with roots.

Reproduction and Dispersal

This species reproduces by seed as well as vegetatively. It is likely to have been introduced into waterways in dumped garden waste and then spread downstream during floods. Seeds and plant fragments may also be dispersed in mud that becomes attached to animals and vehicles.

Why is it an Emerging Threat?

The quick growth and mat-forming habit of this plant enables it to quickly out-compete native aquatic vegetation. Hence, it is potentially a very serious weed of aquatic habitats in northern and eastern Australia. It has also become naturalised in southern Europe and is a troublesome pest of rice crops in Italy.

Control Methods

There is limited information on the mechanical control of kidneyleaf mud-plantain. However, due to its vegetative growth habit a strict hygiene measures must be followed if considering this control method. Disturbance of this species in aquatic areas can result in fragmentation of the plant which may lead to further downstream infestations.

For further information on the control of this species please refer to Biosecurity Queensland's Pest Plant Risk Assessment on Kidneyleaf mud-plantain (www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Kidneyleaf-Risk-Assessment.pdf) or follow the same strict hygiene measures as that of the mechanical control of Alligator weed (*Alternanthera philoxeroides*) which can be found at (http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0012/210450/alligator-weed-control-manual-part4.pdf)

As this species is very new, no chemicals are currently registered for its control in Australia. However, as it is an environmental weed, APVMA off-label permit 11463 is applicable (<http://permits.apvma.gov.au/PERI11463.PDF>). Glyphosate Biactive has been reported to provide effective control of kidneyleaf mud-plantain in waterways in South East Queensland, though follow up has been required in some situations.

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

Look a-likes

Kidneyleaf mud-plantain is superficially very similar to water hyacinth (*Eichhornia crassipes*) when not in flower; but water hyacinth is a free-floating plant and is not rooted to the substrate. Water hyacinth also has very inflated leaf stalks and much larger flowers.



Top. Showy flowers of water hyacinth.

Bottom. Leaves of water hyacinth with inflated stalks.

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