

## Mini data sheet on *Humulus japonicus* (Cannabaceae)

Added in 2007 - Deleted in 2012

### Reasons for deletion:

*Humulus japonicus* was added to the EPPO Alert List in 2007 and transferred to the List of Invasive Alien Plants in 2012.

### Why

*Humulus japonicus* (= *H. scandens*) (Cannabaceae) is an annual climber vine originating from East Asia. Its common name in English is 'Japanese hop'. In Europe, it is only recorded in France, Hungary and Italy where it showed invasive behaviour in wetlands. Because distribution is still very limited, this plant can be considered a new emerging invader.

### Geographical distribution

**EPPO region:** the plant is recorded in southern France, western Hungary and northern Italy (Tutin *et al.*, 1964-1980). The plant is known to be native in the Russian Federation. It is recorded as invasive in France, Hungary and Italy. Its presence was reported for the first time in 2008 in Serbia.

In France, the plant was observed as naturalized in Russan in the Gard Department in September 2004 by Sarah Brunel and Jean-Marc Tison in a degraded riparian habitat near the Gard river. It is thought to have escaped from a garden and has colonized more than 500 m<sup>2</sup>, covering almost 100% of the soil layer and was less abundant on another 500 m<sup>2</sup>. Both female and male plants were found. The plant has thereafter been observed as naturalized in other stations along the Gard river.

**North America:** USA (Alabama, Delaware, District of Columbia, Georgia, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Vermont, Virginia, West Virginia, Wisconsin).

**Asia (native):** China, Japan, North Korea, South Korea, Taiwan, Vietnam.

### Morphology

*H. japonicus* has stems growing up to 5-8 m, leaves are opposite, 5 to 6 cm long, palmate with 5 to 7 lobes. Petioles tend to be longer than the length of leaves. Stems and leaves have rough hooked hairs. Male and female flowers are on separate plants and bloom from mid to late summer. Male flowers are 5 mm in diameter, female inflorescence 15-20 mm, pale green.

### Biology and ecology

*H. japonicus* reproduces by seeds which are dispersed by wind and water. Preferring moist soils, it can form dense stands in floodplains and along stream banks and lake shores, but can also thrive in disturbed areas such as roadsides and urban lots. It can be found in full sun or shade.

### Impacts

*H. japonicus* is a rapidly-growing vine that can form dense stands and displace native vegetation by out-competing for essential resources. This plant can be a threat to the environment when invading riparian habitats. Studies have shown that the pollen of *H. japonicus* is allergenic, and this species is considered as one of the important causes of pollen allergy in Korea and China.

### Control

Plants can be hand-pulled and removed from the invaded area before seeds ripen. The herbicide glyphosate can be used on foliage before plants flower.

### Regulatory status

In the USA, this plant is prohibited in Connecticut and Massachusetts.

## Sources

Park J W, Ko S H, Kim C W, Jeoung B J & Hong C S (1999) Identification and characterization of the major allergen of the *Humulus japonicus* pollen - *Clinical and Experimental Allergy* 29, 1080-1086.

Savic D, Anackov G & Boza P (2008) New chorological data for flora of the Pannonian region of Serbia - *Central European Journal of Biology* 3, 461-470.

Tutin TG, Heywood VH, Burges NA, Moore DM, Valentine DH, Walters SM and Webb DA (1964/80) *Flora Europeaea*, Vol 1-5. Cambridge University Press, Cambridge.

### INTERNET

Wisconsin Department of Agricultural Resources Website. <http://www.dnr.state.wi.us/invasives/fact/japanhops.htm>

References for geographical distribution: Germplasm resource information network (GRIN):

<http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?19414>

USDA Plant database: <http://plants.usda.gov/java/profile?symbol=HUJA>

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