

# *Robinia pseudoacacia*



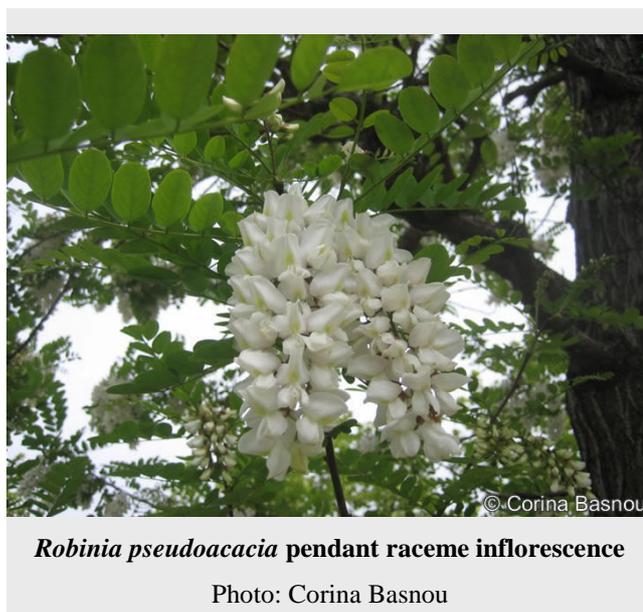
Taxon	Family / Order / Phylum
<i>Robinia pseudoacacia</i> L.	Fabaceae / Fabales / Plantae

## COMMON NAMES (English only)

Black locust  
Black laurel  
False acacia  
Yellow locust  
Honey locust  
White locust  
Green locust  
Post locust  
Shipmast locust  
Locust  
Common robinia  
Robinia  
White honey-flower

## SYNONYMS

*Pseudoacacia communis* Simkovic  
*Pseudoacacia pseudoacacia* Borbás  
*Robinia acacia* L.  
*Robinia pseudacacia* L.  
*Robinia pseudacacia* var. *rectissima* (L.) Raber



*Robinia pseudoacacia* pendant raceme inflorescence

Photo: Corina Basnou

## SHORT DESCRIPTION

This deciduous N-fixing tree can reach up to 30 m in height. The bark is thick, deeply furrowed and has stipular spines on the twigs. It has alternate leaves, pinnately compound. The inflorescence is a pendant large raceme of white highly scented flowers. The fruit is a legume, 5-10 cm long, which remains attached until splitting open in winter.

## BIOLOGY/ECOLOGY

### Dispersal mechanisms

Fruits can be wind dispersed.

### Reproduction

Although black locust produces abundant seeds, germination is low. Seedlings established on sites free of competition show rapid growth. The tree also reproduces by root suckering and stump sprouting to form a connected root system.

### Known predators/herbivores

Good fodder for cattle and deer. Horses are more sensitive to the toxic substances contained in all parts of the plant.

### Resistant stages (seeds, spores etc.)

Unknown.

## HABITAT

### Native (EUNIS code)

The tree grows on moist, limestone-derived soils, in upland oak-hickory forests.

### Habitat occupied in invaded range (EUNIS code)

C2: Surface running waters, E: Grassland and tall forb habitats, G5: Lines of trees, small anthropogenic woodlands, recently felled woodland, early-stage woodland and coppice, J4: Transport networks and other constructed hard-surfaced areas

### Habitat requirements

It cannot grow in the shade. It grows well in full sun and well-drained soils, and it is drought tolerant. It is a pioneer on old fields. As a nitrogen fixing species, it can rapidly colonize acidic or polluted soils.

## DISTRIBUTION

### Native Range

United States (Appalachian Mountains)

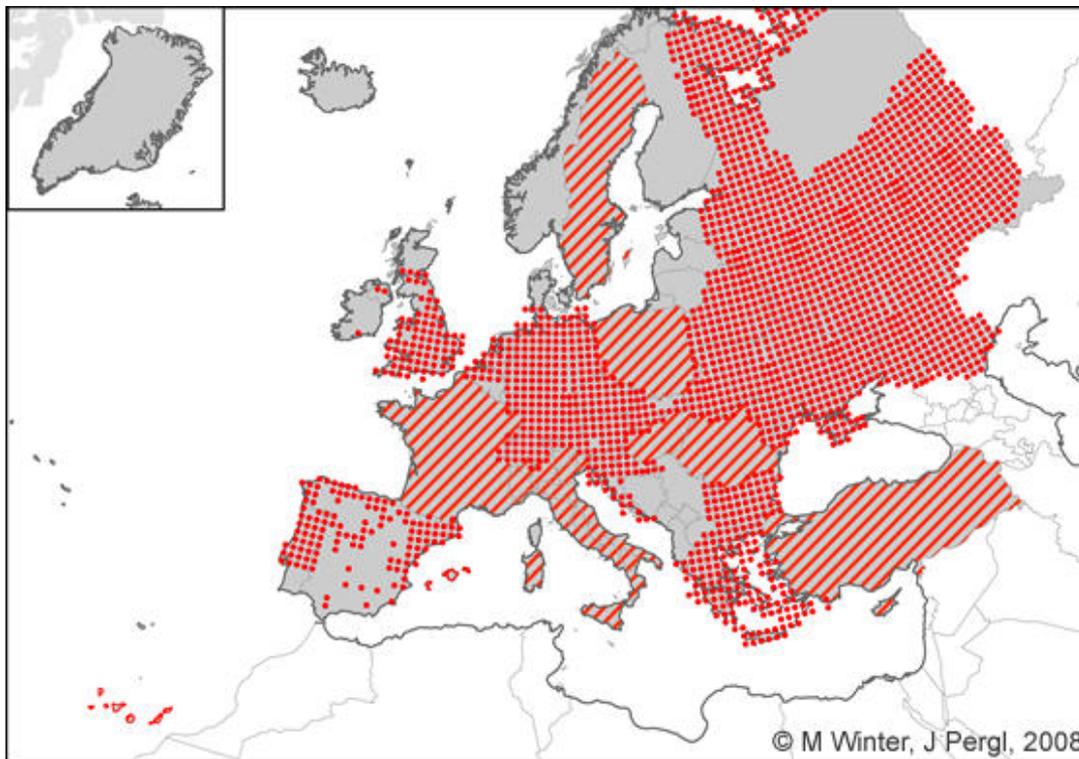
### Known Introduced Range

Europe, Asia, Africa, Australia, New Zealand, Northern America

### Trend

The trend in Europe is increasing, as it is still the most widely planted American tree.

## MAP (European distribution)



### Legend

	Known in country		Known in CGRS square		Known in sea
---	------------------	---	----------------------	--	--------------

## INTRODUCTION PATHWAY

Black locust was introduced from Northern America and planted for the first time in France as an ornamental in 1601. It is also planted for reforestation, erosion control and nectar production. It produces excellent firewood. The inner bark and roots have tonic and purgative properties.

## IMPACT

### Ecosystem Impact

Once introduced in an area, the tree expands rapidly, creating dense clones of shaded islands with little ground vegetation. The large blossoms of black locust compete with native plants for pollinating bees. As a nitrogen fixing species, black locust can achieve early dominance on open sites where nitrogen is limiting to other species.

### Health and Social Impact

The robinine contained in flowers and seeds are toxic to humans and provoke gastroenteritis.

### **Economic Impact**

The tree makes large roots near the surface, sometimes buckling sidewalks or interfering with mowing. It may have considerable economic impact in the future, as it is suitable for planting as a biomass fuel, a source of renewable energy.

### **MANAGEMENT**

#### **Prevention**

Avoiding planting it for reforestation.

#### **Mechanical**

Cutting and burning works only temporarily because the species spreads vegetatively. Bulldozing may be used on disturbed lands.

#### **Chemical**

This tree can be controlled using the following herbicides: dicamba, fosamine, glyphosate, imazapyr, picloram, tricopyr. The management of this suckering species is very difficult and follow-up treatments are required.

#### **Biological**

In the United States, the major pest of this tree is the locust borer (*Megacyllene robiniae*). Other insect pests include leafminers and twig borers. The wood has a high resistance to fungi and insects and no biological control has been provided in Europe yet.

### **REFERENCES**

Wieseler, S. 1998. Black Locust. Plant Conservation Alliance. <http://www.nps.gov/plants/alien/fact/rops1.htm> Cited Nov 20, 2006

### **OTHER REFERENCES**

Addlestone BJ, Mueller JP, Luginbuhl JM (1998) The establishment and early growth of three leguminous tree species for use in silvopastoral systems of the southeastern USA. *Journal Agroforestry Systems* 44(2-3):253-265

Montagnini F, Haines B, Boring L, Swank W (1986) Nitrification potentials in early successional black locust and in mixed hardwood forest stands in the southern Appalachians. *USA Journal Biogeochemistry* 2(2):197-210

Putman LJ, Pruner MS, Laks PE (1991) Properties of protein constituents of black locust bark. *Journal Wood Science and Technology* 25:1-6

Rice SK, Westerman B, Federici R (2004) Impacts of the exotic, nitrogen-fixing black locust (*Robinia pseudoacacia*) on nitrogen-cycling in a pine-oak ecosystem. *Journal Plant Ecology* 174(1):97-107

Ssekabembe CK, Henderlong PR, Larson M (1994) Soil moisture relations at the tree/crop interface in black locust alleys. *Journal Agroforestry Systems* 25(2):135-140

Swamy SL, Puri S, Kanwar K (2002) Propagation of *Robinia pseudoacacia* Linn. and *Grewiaoptiva* Drummond from rooted stem cuttings. *Journal Agroforestry Systems* 55(3):231-237

Author: Corina Başnou

Date Last Modified: December 15<sup>th</sup>, 2006