Betula nigra
River Birch¹
Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

River birch can grow 50 to 90 feet tall but is often seen 40 to 50 feet (Fig. 1). It normally grows with a central leader and small-diameter, dark-colored lateral branches. It has a narrow, oval to pyramidal crown when young, spreading wider with age as several branches become dominant. It lacks the white trunk bark associated with other birches but is distinguished by reddish, brown bark peeling off in film-like papery curls providing interest all year round. River birch can be easily trained with one central leader or as a multi-stemmed tree. Some nurseries plant two or three trees together to form a clump, but these trunks will not fuse into one strong trunk. Should be grown more as a single-trunked specimen. Branches droop particularly when they are wet, so regular pruning in the early years will be required to remove lower branches when they are located close to areas where clearance is needed for vehicular traffic.

GENERAL INFORMATION

Scientific name: Betula nigra
Pronunciation: BET-yoo-luh NYE-gruh
Common name(s): River Birch
Family: Betulaceae
USDA hardiness zones: 4 through 9A (Fig. 2)
Origin: native to North America
Uses: hedge; near a deck or patio; screen; shade tree; specimen; residential street tree
Availability: generally available in many areas within its hardiness range

Figure 1. Young River Birch.

DESCRIPTION

Height: 40 to 50 feet
Spread: 25 to 35 feet
Crown uniformity: symmetrical canopy with a regular (or smooth) outline, and individuals have more or less identical crown forms
Crown shape: oval; pyramidal; upright

¹ This document is adapted from Fact Sheet ST-94, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: November 1993.
² Edward F. Gilman, associate professor, Environmental Horticulture Department; Dennis G. Watson, associate professor, Agricultural Engineering Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.
Betula nigra -- River Birch

Figure 2. Shaded area represents potential planting range.

**Crown density:** dense
**Growth rate:** fast
**Texture:** medium

**Foliage**
- **Leaf arrangement:** alternate (Fig. 3)
- **Leaf type:** simple
- **Leaf margin:** double serrate
- **Leaf shape:** ovate; rhomboid
- **Leaf venation:** pinnate
- **Leaf type and persistence:** deciduous
- **Leaf blade length:** 2 to 4 inches
- **Leaf color:** green
- **Fall color:** yellow
- **Fall characteristic:** not showy

**Flower**
- **Flower color:** brown
- **Flower characteristics:** inconspicuous and not showy; spring flowering; winter flowering

**Fruit**
- **Fruit shape:** elongated
- **Fruit length:** 1 to 3 inches
- **Fruit covering:** dry or hard
- **Fruit color:** brown
- **Fruit characteristics:** does not attract wildlife; inconspicuous and not showy; no significant litter problem

**Trunk and Branches**
- **Trunk/bark/branches:** droop as the tree grows, and will require pruning for vehicular or pedestrian clearance beneath the canopy; routinely grown with, or trainable to be grown with, multiple trunks; tree wants to grow with several trunks but can be trained to grow with a single trunk; very showy trunk; no thorns
- **Pruning requirement:** needs little pruning to develop a strong structure
- **Breakage:** resistant
- **Current year twig color:** brown; reddish
- **Current year twig thickness:** thin
Culture

Light requirement: tree grows in part shade/part sun; tree grows in full sun
Soil tolerances: clay; loam; sand; acidic; extended flooding; well-drained
Drought tolerance: moderate
Aerosol salt tolerance: low
Soil salt tolerance: moderate

Other

Roots: surface roots are usually not a problem
Winter interest: tree has winter interest due to unusual form, nice persistent fruits, showy winter trunk, or winter flowers
Outstanding tree: tree has outstanding ornamental features and could be planted more
Invasive potential: little, if any, potential at this time
Ozone sensitivity: tolerant
Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: long-term health usually not affected by pests

USE AND MANAGEMENT

It is very well-suited for planting along steam banks where it is native and in other areas which are inundated for weeks. River birch tolerates low soil oxygen, flooding, and clay soil but needs moist conditions. The tree requires an acid soil, otherwise it becomes chlorotic. River birch is hardy, grows rapidly, but tends to be short-lived (30 to 40 years) in many urban settings, possibly due to inadequate water supply. Situate the tree so it receives adequate water. Large trees are prone to trunk decay. Not a tree to plant and forget due to irrigation requirement.

The tree is not as susceptible to bronze birch borer as are other birches. It is not particularly adapted to heat but can make a nice tree in USDA hardiness zone 8b, possibly 9a, if provided with irrigation and plenty of soil space. Not for confined street tree pits or tree lawns in the south. The yellow fall color display is of short duration.

The cultivar ‘Heritage’ grows 50 feet tall, has an oval shape, and scaly bark that is beige in color and is the closest to a paper white birch that will survive in hot areas; it grows from Minnesota to Florida. It is also tolerant of poor drainage. It is reportedly resistant to bronze birch borer and unlike most birches it is resistant to leaf spot. It is more vigorous than the species.

Pests

No pests are of major concern. Resistant to bronze birch borer.

Diseases

Leaf spots; chlorosis on soils with a high pH.