Betula nigra: River Birch

Edward F. Gilman and Dennis G. Watson

Introduction
River birch can grow 50 to 90 feet tall but is often seen 40 to 50 feet. 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: 4A through 9A (Fig. 2)
Origin: native to North America
Invasive potential: little invasive potential
Uses: hedge; street without sidewalk; screen; shade; specimen; deck or patio

Availability: not native to North America

Figure 1. Young Betula nigra: River Birch
Credits: Ed Gilman

Figure 2. Range
**Description**

**Height:** 40 to 50 feet  
**Spread:** 25 to 35 feet  
**Crown uniformity:** symmetrical  
**Crown shape:** upright/erect, pyramidal, oval  
**Crown density:** dense  
**Growth rate:** fast  
**Texture:** medium

**Foliage**

**Leaf arrangement:** alternate (Fig. 3)  
**Leaf type:** simple  
**Leaf margin:** double serrate  
**Leaf shape:** rhomboid, ovate  
**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:** not showy

**Fruit**

**Fruit shape:** elongated  
**Fruit length:** 1 to 3 inches  
**Fruit covering:** dry or hard  
**Fruit color:** brown  
**Fruit characteristics:** does not attract wildlife; not showy; fruit/leaves not a litter problem

**Trunk and Branches**

**Trunk/bark/branches:** branches droop; very showy; typically multi-trunked; thorns  
**Pruning requirement:** little required  
**Breakage:** resistant  
**Current year twig color:** reddish, brown  
**Current year twig thickness:** thin  
**Wood specific gravity:** unknown

**Culture**

**Light requirement:** full sun, partial sun, or partial shade  
**Soil tolerances:** clay; sand; loam; acidic; extended flooding; well-drained  
**Drought tolerance:** moderate  
**Aerosol salt tolerance:** low

**Other**

**Roots:** not a problem  
**Winter interest:** yes  
**Outstanding tree:** yes  
**Ozone sensitivity:** tolerant  
**Verticillium wilt susceptibility:** resistant  
**Pest resistance:** resistant to pests/diseases

**Use and Management**

It is very well suited for planting along steam banks where it is native and in other areas that 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.