

***Liriodendron tulipifera* - *Acer rubrum* - *Robinia pseudoacacia* Forest**

COMMON NAME Tuliptree - Red Maple - Black Locust Forest
SYNONYM Early Successional Appalachian Hardwood Forest
PHYSIOGNOMIC CLASS Forest (I)
PHYSIOGNOMIC SUBCLASS Deciduous forest (I.B)
PHYSIOGNOMIC GROUP Cold-deciduous forest (I.B.2)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (I.B.2.N)
FORMATION Lowland or submontane cold-deciduous forest (I.B.2.N.a)

ALLIANCE *Liriodendron tulipifera* Forest Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

RANGE

Globally

This association occurs in the southern Appalachian Mountains and Appalachian Plateaus of Georgia, Kentucky, North Carolina, South Carolina, and Tennessee.

Great Smoky Mountains National Park

This community was sampled or observed on both the Cades Cove and Mount Le Conte quadrangles and is likely in other areas of the Park. On the Cades Cove quadrangle this community is found on low slopes around Cades Cove; on slopes along lower Green Branch Creek; slopes above Rowans Branch; north of Tater Ridge on low slopes above a creek; on low slopes northwest of Pine Ridge, and in the southeast portion of the quadrangle in the vicinity of Eagle Creek. Areas where it is known to occur on the Mount Le Conte quadrangle include Porter's Flats, in the eastern portion of the quadrangle, and in the northern portion, on low slopes in the watershed of Rhododendron Creek, and a low cove south of Hills Creek. It is likely on other low slopes below 2000 feet elevation in the northern half of the Mount Le Conte quadrangle, particularly in areas that were once settled by humans.

ENVIRONMENTAL DESCRIPTION

Globally

This vegetation occurs in areas that have been cleared, clearcut, old fields, or areas cleared by fire or other natural disturbances. It occurs on middle to lower slopes, in sheltered coves and gentle concave slopes, along streams in flat bottoms and on upland mountain benches. It is associated with various soils and geologies. In the southern Appalachians these forests typically occur below 3000 feet and are usually associated with disturbance on the most productive sites. These forests typically occur as small (8-16 hectare) patches in the landscape.

Great Smoky Mountains National Park

This forest is found on low slopes and flats, typically below 3000 feet elevation and particularly in areas of heavy settlement or past logging or farming activities.

MOST ABUNDANT SPECIES

Globally

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Liriodendron tulipifera</i> , <i>Acer rubrum</i> , <i>Robinia pseudoacacia</i>
Short shrub	(variable)
Herbaceous	(variable)

Great Smoky Mountains National Park

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Liriodendron tulipifera</i> , <i>Acer rubrum</i>
Short shrub	<i>Acer saccharum</i> , <i>Acer pensylvanicum</i> , <i>Tsuga canadensis</i>
Herbaceous	<i>Amphicarpaea bracteata</i> , <i>Thelypteris noveboracensis</i>
Liana	<i>Toxicodendron radicans</i> ssp. <i>radicans</i> , <i>Vitis aestivalis</i>

CHARACTERISTIC SPECIES

Globally

Liriodendron tulipifera, *Acer rubrum*, *Robinia pseudoacacia*

Great Smoky Mountains National Park

Liriodendron tulipifera, *Acer rubrum*, *Robinia pseudoacacia*, *Toxicodendron radicans* ssp. *radicans*, *Vitis aestivalis*

VEGETATION DESCRIPTION

Globally

This vegetation consists of primarily early successional species, with the majority of regeneration from root and stump sprouts. Canopies are typically dominated by *Liriodendron tulipifera* and *Acer rubrum*, with lesser amounts of *Robinia pseudoacacia*. Associated species vary, but these forests are typical of areas that were once clearcut, old fields, or cleared by fire or other natural disturbances. Tall shrubs (*Rhododendron periclymenoides*, *Rhododendron calendulaceum*, *Kalmia latifolia*, *Calycanthus floridus*) sprout from root stocks and occur as scattered, dense clumps, while shorter shrubs (*Gaylussacia ursina*, *Rubus* spp., *Vaccinium* spp.) can have dense, continuous cover. Composition of the herbaceous stratum varies with site conditions and may contain field-adapted species tolerant of high light intensities, as well as many shade-tolerant forest herbs.

Great Smoky Mountains National Park

This forest has a canopy strongly dominated by *Liriodendron tulipifera*. Other canopy and subcanopy species include *Acer rubrum*, *Robinia pseudoacacia*, *Acer saccharum*, *Halesia tetraptera* var. *monticola*, and *Betula lenta*. Shrubs can be sparse to moderate in coverage, with composition varying from site to site, but often composed of saplings of canopy species. *Tsuga canadensis* can be dominant in the shrub stratum. Herbaceous cover can be sparse to moderate, with no clear dominant, although *Amphicarpaea bracteata* and *Thelypteris noveboracensis* may be dominant in patches. Vines are common and often abundant. Typical vine species are *Aristolochia macrophylla*, *Parthenocissus quinquefolia*, *Smilax glauca*, *Smilax rotundifolia*, *Toxicodendron radicans* ssp. *radicans*, and *Vitis aestivalis*.

OTHER NOTEWORTHY SPECIES

No information

CONSERVATION RANK GW

RANK JUSTIFICATION

This forest represents early successional vegetation or vegetation resulting from anthropogenic activities and is thus not a conservation priority.

DATABASE CODE C EGL007219

COMMENTS

Globally

Great Smoky Mountains National Park

The signature of this vegetation may be similar to some stands of *Aesculus flava* - (*Fraxinus americana*, *Tilia americana* var. *heterophylla*) / *Cimicifuga racemosa* - *Laportea canadensis* Forest (CEGL007710). This association is distinguished by its early successional status, often with an even-aged, single species canopy, and lacking the suite of herbaceous species characteristic of *Liriodendron tulipifera* - *Aesculus flava* - (*Fraxinus americana*, *Tilia americana* var. *heterophylla*) / *Cimicifuga racemosa* - *Laportea canadensis* Forest (CEGL007710).

REFERENCES

Golden 1974, Horn 1980, McGee and Hooper 1970, Phillips and Shure 1990, Schmalzer 1978, Thomas 1966