Invasive Shrubs and Trees

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Lespedeza
(Lespedeza spp.)

• Two species
  – Chinese (sericea)
  – Shrubby (bicolor)
• Small shrubs or semi-woody forbs
• Asia
• 1800s-early 1900s
• Erosion control and wildlife habitat
• Widespread in Southeast

Lespedeza History

• Widely planted in the early 1900s under erosion control programs.
• Road-side and Mine reclamation
• Wildlife plantings
  – Quail food plots
• Prescribed fire

Lespedeza Ecology

• Fabaceous
• Long-lived seeds
• Fire-promoted
• Somewhat shade tolerant
• Disturbed areas
  – Fields
  – Open forests/forest edges
  – Reclamation areas
  – Road-sides
  – Prairies

James H. Miller, USDA Forest Service
Lespedeza Ecology

- Unpalatable for wildlife
- Extensive seed bank
  - >50 year viability
- Large root system
- Displaces native species
- Forms monospecific stands
- Interferes with fire regimes
Lespedeza Identification

Chinese (sericea)
- 3-6 feet
- Slender, upright stems
- Alternate, 3-parted leaves
  - Long, thin leaflets
- White to yellow flowers with purple marks
- Flat single-seeded pods, clustered at axils

Shrubby (bicolor)
- 3-10 feet
- Branching, bushy form
- Alternate, 3-parted leaves
  - Oval to oblong leaflets
- Pink-purple flowers
- Flat seed pod

David Moorhead, The University of Georgia
Dan Tenaglia, www.missouriplants.com
James H. Miller, USDA Forest Service
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Privet
*(Ligustrum spp.)*

- Several species
- Large shrubs
- Asian and European
- 1700-1900s
- Ornamental
- Long history of cultivation throughout the world
- Widespread and extremely common in the Eastern US

Privet Ecology

- Berries are bird dispersed
- Semi-evergreen
- Fruit persist into winter
- Re-sprout vigorously
- Shade tolerant
  - Forests
  - Old fields
  - Roadsides
  - Fencerows
  - Right-of-ways
Privet Ecology

- Forms very dense thickets
  - Impedes wildlife movements
  - Displaces native species
  - Restricts tree seedling establishment
- Closes open areas
- Spreads rapidly
  - Bird dispersed seeds
- Difficult to remove

Privet Identification

- Up to 30 feet
- Thin branches
- Brownish gray to gray-green smooth bark
- Opposite, entire leaves that persist into winter
- Clusters of small, white flowers
- Dark purple, black berries that persist into winter

Spread of Chinese Privet in the South

- Year
- Number of Counties Infested

Chinese Privet

- Up to 30 feet
- Thin branches
- Brownish gray to gray-green smooth bark
- Opposite, entire leaves that persist into winter
- Clusters of small, white flowers
- Dark purple, black berries that persist into winter
Mimosa
(*Albizia julibrissin*)
- Silk tree or silky acacia
- Large shrub/small tree
- Asia
- 1745
- Ornamental
- Naturalized throughout the Eastern US
- Very showy

Mimosa History
- Promoted and planted widely as an ornamental starting in the early 1800s
- Mimosa wilt reduced populations dramatically in the mid 1900s
- 70% mortality in some areas
- Escaped ornamental plantings
- Very common invasive
**Mimosa Ecology**

- Fabaceous
- Long-lived seeds
- Vegetative reproduction
- Re-sprout vigorously
- Disturbed areas
  - Riparian areas
  - Forest Edges
  - Open Fields

- Closes open areas
  - Restricts light
  - Reduces herbaceous cover
- Dominates stream banks
  - Displace native shrubs
- Invades road edges and right-of-ways
  - Increase maintenance costs
- Difficult to remove once established
Mimosa Identification

- 10-50 feet in height
- Multiple trunks
- Smooth gray/brown bark
- Bipinnately compound “feathery” leaves
- Showy pink flowers
- Flat bean pods
Tallow Tree

*Triadica sebifera*

- Popcorn tree
- Medium-sized tree
- China
- 1700s (SC)
- Early 1900s (gulf coast)
- Ornamental and Seed oil
- Naturalized throughout the Southeast

Tallow Tree History

- **Seed coverings** - “Chinese vegetable tallow”
  - Candles, Soap, and Cloth Dressing
- **Kernels** - “Stillingia oil”
  - Machine oils, Lamp oil, Varnishes, and Paints
  - Linseed oil substitute
- Introduced into the Gulf Coast by the USDA to establish a soap industry
- Planted widely as an ornamental

Tallow Tree Ecology

- Escaped ornamental and industrial plantings
- Wide range of conditions
  - Sun and shade
  - Wet to dry sites
  - Disturbed or undisturbed
  - Salt tolerant
- Riparian Areas
- Coastal Prairies
- Bottomlands
- Old fields

- Seed and sprout reproduction
- Produces seed in 3 years
- Displaces native species
- Creates monospecific stands
- Allelopathic
- Alters nutrient cycling
Cheryl McCormick, The University of Georgia

Thomas Ellis, Jr., Alabama Forestry Planning Committee

David Moorhead, The University of Georgia

Tallow Tree Identification

- Tree to 60 feet in height
- Light-gray, fissured bark
- Alternate, heart-shaped leaves
- Showy fall color
- Drooping spikes of small, yellow flowers
- Fruit - green to black capsule
  - Opens to reveal 3 round, white seeds (popcorn like)
Paulownia
*(Paulownia tomentosa)*

- Princess tree
- Medium-sized tree
- Asia
- Early 1800s
- Ornamental and wood products
- Escaped sporadically throughout the Southeast

Paulownia History

- Paulownia plantations
  - Supposed high-market value in Japan
- Profits largely unrealized

Paulownia Ecology

- Abundant, tiny, winged seeds
  - Wind dispersed over long distances
  - 20 million seeds per tree
- Grows from root sprouts
- Quick maturation time
- Fast growing
- Drought tolerant
- Ability to grow in extremely adverse conditions
  - Rock outcroppings
  - Road cuts
  - Forest edges
  - Stream banks
  - Old Fields
**Paulownia Ecology**

- Invades steep, rocky areas
  - Could be habitats for rare plants
- Colonizes easily after disturbance
  - Fire
  - Harvest
  - Old field
- Displaces native species
- Restrict native tree and shrub establishment

**Paulownia Identification**

- 60 feet
- Glossy, gray-brown bark
  - Numerous lenticels
- Opposite leaves
  - Large, heart shaped, and fuzzy
- Clusters of large, showy, pale-violet flowers
- Pecan-like fruit capsules
- Tiny-winged seeds
Chinaberry Tree
(Melia azedarach)

- Medium-large tree
- Asia
- Mid 1800s
- Ornamental
- Escaped and Naturalized throughout much of the South

Chinaberry Tree Ecology

- Bird-dispersed seeds
- Vegetative reproduction
- Somewhat shade tolerant
- Invades disturbed habitats
  - Roadsides
  - Forest edges
  - Fence rows
  - Riparian areas
- Can invade undisturbed forests as well
Chinaberry Tree Identification

- 50 feet
- Often multi-branched
- Young bark – glossy, greenish-brown with lenticels
- Dark-brown, fissured older bark
- Alternate leaves
  - Bipinnately compound
  - Dark-green in color
- Golden fall color
- White, pinkish, or lavender flowers in showy clusters
- Yellowish-tan fruit - Toxic