

Under the Oaks

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PRINCESS TO PEST

The half-century decline of a tree species from desired to disdained.

The Princess tree, *Paulownia tomentosa*, was named for Anna Pavlovia, daughter of the czar of Russia, and granddaughter of Catherine the Great. It originated in Asia, and was brought to this country about 1840 as an ornamental tree. It "escaped" its confines, going "over the fence" by seeds, and "under the fence" by root sprouts. It wandered down the Appalachian Range and reproduced until it is now naturalized in twenty five states, including most of the southeast, and some states on the west coast.

Paulownia tomentosa, known also as the Royal Empress, is a beautiful tree. Its spectacular leaves are heart shaped and often three feet across. It grows 30' - 60' high, with a crown 30-40' wide. In April and May, showy clusters of fragrant, violet colored flowers, similar to those of foxglove, almost cover the tree's crown. The fruit is a pointed, round capsule that turns brown in autumn. Each fruit contains up to 2,000 seed, which are winged, and distributed by wind. It also reproduces by sprouting from roots that can run 30-40 feet from its base.

Paulownia wood is very lightweight, yet strong and stable. It is easy to carve and the Japanese make ornamental boxes from it. They also use the wood for the soles of the shoes women wear with kimonos, and they use it for making furniture.

Once it was the custom in Japan to plant a *Paulownia* when a baby girl was born, and when she married to present her with a dresser made of the tree as a wedding gift.

Because of its many uses, Japan began to import *Paulownia* wood from the United States, and they paid a very good price for it. *Paulownia* plantations started up, soon followed by *Paulownia* tree rustlers. People would wake in the morning to find a stump where their *Paulownia* tree had stood. In Somerville,

Tennessee, *Paulownia* trees disappeared from the library grounds and two banks in one night.

But the tree was not to retain its glory forever. Soon its invasiveness was noted, and naturalists became alarmed at its reproductive capacities, its rapid growth, and its ability to tolerate bad soil, drought, and other unfavorable conditions. It would come back when cut to the ground, survive fire, and would grow quickly on rocky slopes and bare soil. This signaled a probable threat of *Paulownia* crowding out native trees. It was put on the list of invasives, and called a pest tree.

And it does have its faults as an ornamental as well. Cut it to the ground and its back, growing up to fifteen feet in one year. Another *Paulownia* appears 20' away. Get out the stump killer.

Still, when driving down a country road in the spring and seeing a cloud of violet flowers, some might just say to themselves, 'I have to have a tree like that, pest or no pest'.

Host Trees for Butterfly Larvae

Butterflies belong to the order, Lepidoptera, and are distributed over much of the earth. In their larval stage, their major food source is green plants, leaves mostly. Some butterflies choose a certain type of tree on which to lay their eggs, and some use several different tree species. Others lay their eggs on shrubs or herbaceous plants. Butterflies go through a complete metamorphosis, which has four distinct stages, the egg being the first stage. The eggs are many different sizes, shapes and colors, and the butterfly may lay a single egg or many; some species even lay eggs on top of eggs.

The second stage is the larva, or caterpillar, whose entire purpose is to eat and grow. The caterpillar has a fine tuned digestive system. The mouth has a pair of strong mandibles for chewing plant matter, and as the caterpillar grows it molts a number of times, shedding its outer covering. Caterpillars have different

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shapes and colors, and those that are more exposed sometimes have dense hairs, spines, wicked looking horns, or other protective features.

Once the caterpillar reaches his full growth, it changes into the chrysalis, or pupa. Some caterpillars have large glands, which can secrete liquid. This hardens into a strong silken thread from which the caterpillar may spin a cocoon to protect the pupa. The cocoon's outside remains immobile, while inside it is developing the structures of the butterfly. Other caterpillars may simply find a place in or on the ground to change into the pupa form, or wrap up in a leaf.

The last stage of the metamorphosis occurs when the pupa reaches the ultimate transformation. The pupa skin splits and the adult butterfly crawls out into the world. Before it can fly, however, it has to get body fluid into its limp wings so they can spread and stiffen to their full size, and then it can get on with its job of mating and laying eggs. Below is a list of some of the trees that are hosts to butterfly larvae, ending with one tree that hosts two interesting moths.

Host Tree-Common Name-Butterfly

Amelanchier spp.-Serviceberry-Coral Hairstreak
Asimina triloba-Pawpaw-Zebra Swallowtail
Carpinus caroliniana-American Hornbeam-Red-spotted Purple
Celtus laevigata-Sugar Hackberry-Common Snout
Cornus florida-Dogwood-Spring Azure
Fraxinus spp.-Ash-Tiger Swallowtail
Prunus spp.-Plum, Cherry, etc.-Viceroy
Salix spp-Willow-Mourning Cloak
Sassafras albidum-Sassafras-Spicebush Swallowtail
Ulmus spp-Elm-Question Mark & Comma
Carya cordiformis-Bitternut Hickory-Luna Moth & Regal Moth