

# WE NEED YOUR HELP!

We are glad to provide these materials for free. In order for us to continue receiving funding for new materials, we need to collect information on how they are used.

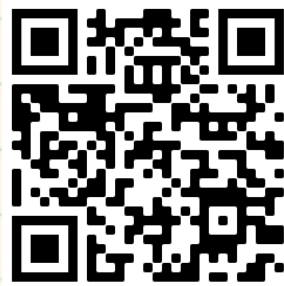
**Thank you for taking the time to answer the following one-minute survey.**



## There are three ways to complete the survey:

**1**

Scan this code with your smartphone camera



**2**

Type the following link into your web browser:  
<https://plantheroes.org/educator-survey>

**3**

Email your answers to:  
[plantheroes@publicgardens.org](mailto:plantheroes@publicgardens.org)



- 1) Job title
- 2) Name of organization you belong to
- 3) What kind of educator are you?
  - Teacher
  - Summer camp counselor
  - Home schooler
  - Public garden educator
  - Informal educator
  - Other (please describe)
- 4) What grade level do you teach?
  - Elementary (K-5)
  - Middle School (6-8)
  - High School (9-12)
  - Other (please describe)
- 5) Specify what subject area you teach:
  - Science
  - Math
  - Language Arts
  - Social Studies
  - Other (please describe)
- 6) How many students do you teach in a school year?



# Field Guide:

## Asian Longhorned Beetle

*The larvae of this big black-and-white beetle feed on and kill many different types of hardwood trees. Efforts to stop its spread are essential but very costly.*



Plant  
Protection  
Program

AMERICAN PUBLIC GARDENS ASSOCIATION



Photo: Gillian Allard, Bugwood.org

# ASIAN LONGHORNED BEETLE

## Identification

Top view of the Asian longhorned beetle (*Anoplophora glabripennis*).

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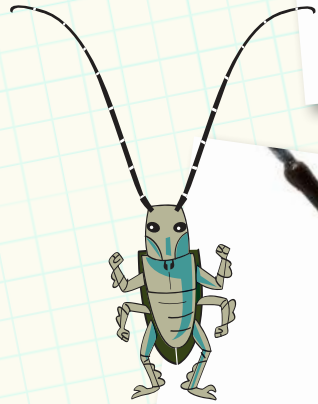


B UGA2159062



A UGA2159067

<< Side view of the Asian longhorned beetle.



D



C

<< An adult Asian longhorned beetle can measure over 1 inch (2.5 centimeters) long. It has six legs, a black body with white spots, long and banded antennae, and sometimes blue feet!

# ASIAN LONGHORNED BEETLE

## Life Cycle



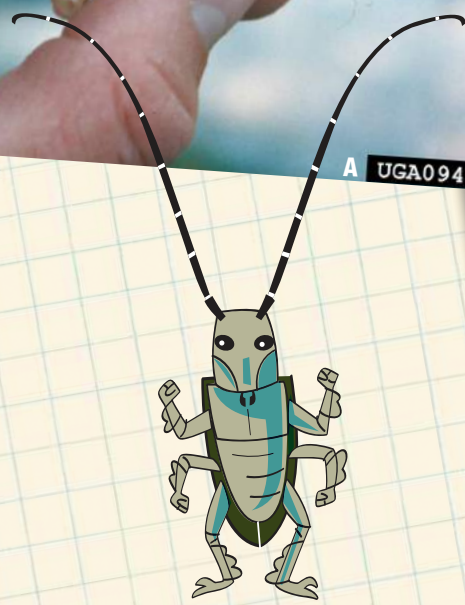
A UGA0949054

<< An Asian longhorned beetle larva, which can measure over 2 inches (5 centimeters) long!



B UGA5017021

^ Close-up of an Asian longhorned beetle pupa in the wood of a host tree.



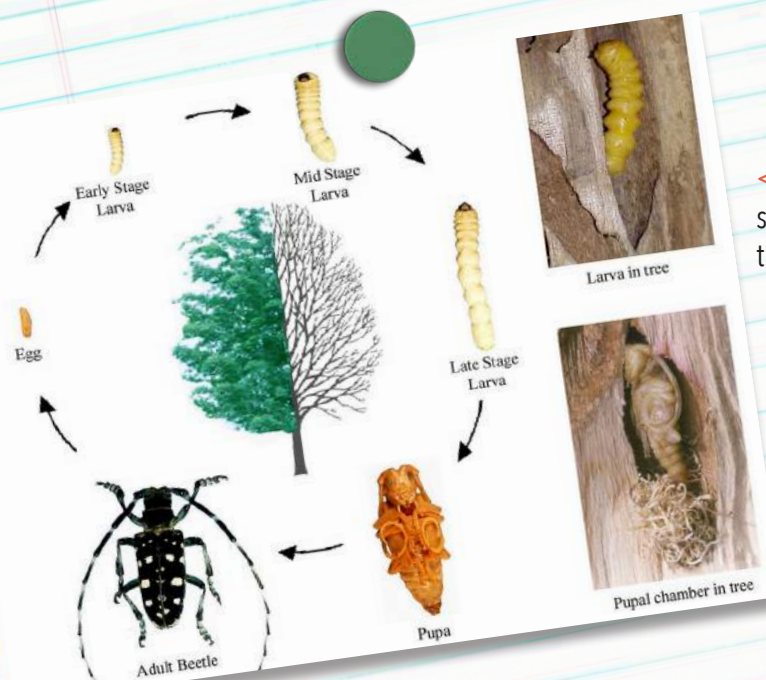
Adults and oviposition scars



Emergence holes



Adult emerging from tree



<< This illustration shows the life cycle of this beetle.

# ASIAN LONGHORNED BEETLE

## Host Trees

Host trees are trees that the Asian Longhorned Beetle lives in and feeds on.

Leaves from a European white birch. Gray and river birches are also damaged by Asian longhorned beetles.

>>



A 5400201

Leaves from a sugar maple. All maples are vulnerable to the Asian longhorned beetle but Norway, red, silver, sugar, sycamore, and boxelder are especially tasty to the beetle! >>



B UGA0008379

These are the leaves of the American elm tree. Siberian and Chinese elm leaves look similar. All three elm species (as well as many others) are vulnerable to the Asian longhorned beetle.

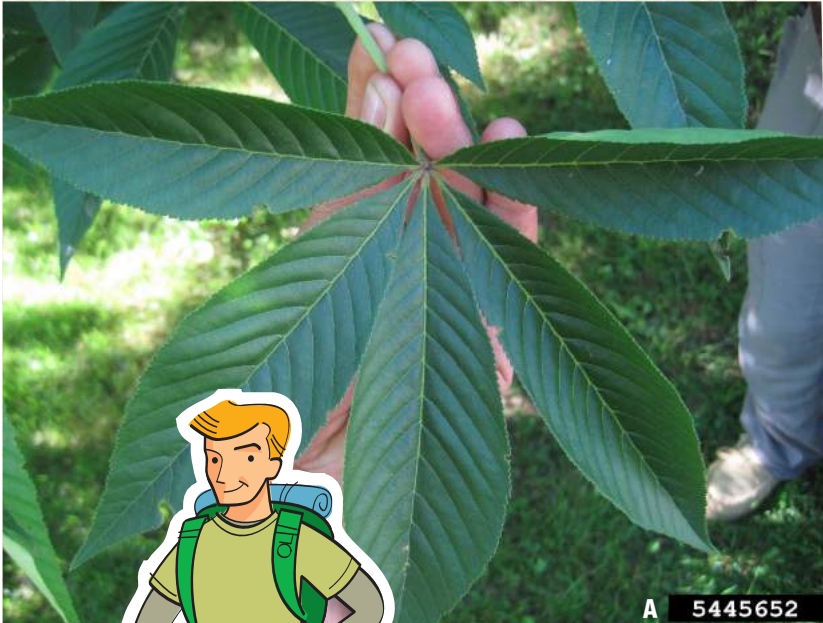
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C UGA0008329

# ASIAN LONGHORNED BEETLE

## Host Trees 2



^ Trees in the genus *Aesculus*, such as the horse chestnut tree and the buckeye tree, are vulnerable to Asian longhorned beetles.



<< In addition to white willow (shown here), the Asian longhorned beetle also affects weeping, pussy, and black willows.

Asian longhorned beetles prefer deciduous trees, which are trees that lose their leaves in the fall.



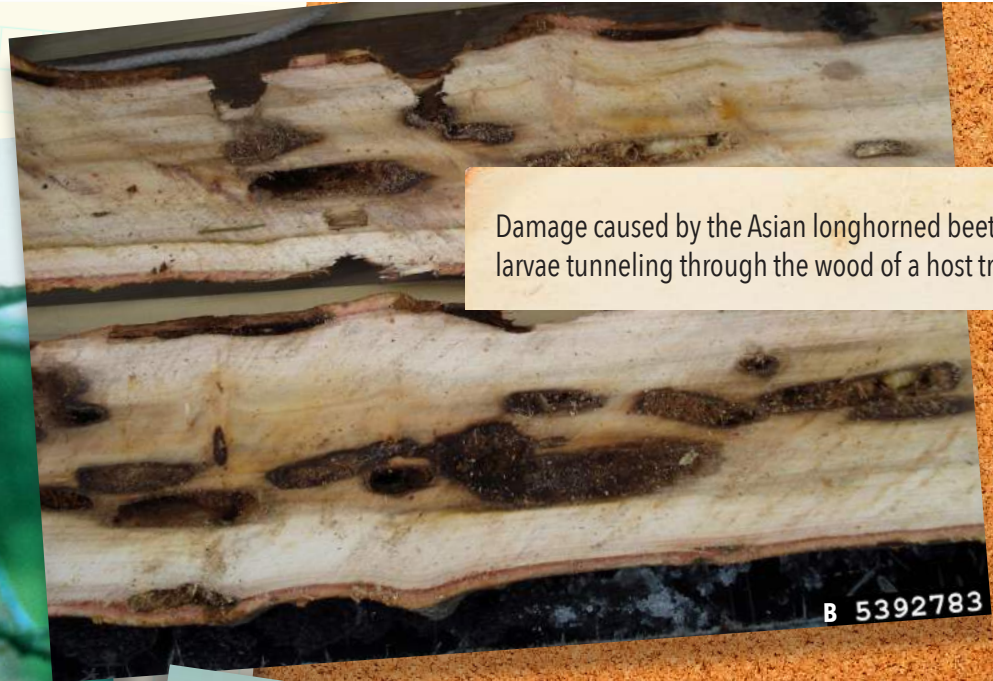
# ASIAN LONGHORNED BEETLE

## Damage

>>  
Cross-section of a tree trunk showing the larval tunnels and pupal chambers of the Asian longhorned beetle.



A UGA1257008



Damage caused by the Asian longhorned beetle larvae tunneling through the wood of a host tree.

B 5392783



C

Cross-section of a tree trunk showing a tunnel burrowed from a point of exit in the tree bark.

>>



D UGA1398105

# ASIAN LONGHORNED BEETLE

## Symptoms

Symptoms are visible clues that a tree is suffering from a pest or disease issue.

A perfectly round exit hole created by an adult Asian longhorned beetle chewing its way out of the host tree. >>



A

<< The female adult beetle chews a shallow depression, called an "oviposition site," into the bark, where she will lay her eggs.



B

UGA1393001

<< A tree trunk showing several Asian longhorned beetle oviposition sites and exit holes.



D

5392759

Frass, a sawdust-like material that the Asian longhorned beetle pushes out of the tree as it burrows.



C

UGA5017010





Join our team of Plant Heroes and learn about trees, forests, and the natural world around you!

**PLANTHEROES.ORG**

**You can be a Plant Hero!**

Are you curious about plants and animals? Do you like asking questions about nature? Do you enjoy being outdoors and having fun, climbing trees, balancing on logs, or finding a new butterfly or beetle? If so, you are already on your way to becoming a Plant Hero! We invite you to join forces with Nate, Laura, Aponi, and Frankie to protect the plants and ecosystems we all love.

**How can you become a Plant Hero?**

Join our team and go on a journey with Nate, Aponi, Laura, and Frankie. As a Plant Hero, you will learn to notice when plants are in trouble. You will also find out ways you can act quickly to help find solutions in your own neighborhood. Follow their adventures and learn how they help plants and ecosystems stay healthy.

**On the Plant Heroes website, you will find** materials to help you learn about plants, forest health, and ecosystem balance. The more you know, the more you can help protect plants and ecosystems in your own yard, neighborhood, and community!

**Plant Heroes strives to spark curiosity about nature and science in all children.**

Our program provides hands-on, nature-based learning materials for educators to engage children in topics of plant health, ecosystem balance, and forest health. We also spotlight the amazing work our public gardens do in protecting the plants and ecosystems we all depend on through our website and printed materials. Visit [plantheroes.org](http://plantheroes.org) today to learn more!

**Plant Heroes is brought to you by the American Public Gardens Association, founded in 1940.**

Over the last eight decades, the Association has supported the work of public gardens in North America and beyond. Our mission is to champion and advance public gardens as leaders, advocates, and innovators in the conservation and appreciation of plants. Our vision is "A world where public gardens are indispensable" as they provide botanic, conservation, community, education, and economic resources to their community.

The Association is committed to increasing the knowledge of public garden professionals throughout North America through information sharing, professional development, networking, public awareness, and research, so that they have the tools to effectively serve visitors and members.



**American  
Public Gardens  
Association**

[PublicGardens.org](http://PublicGardens.org)

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