



### What can you do?

- Avoid planting Japanese Barberry, Burning Bush or Japanese Honeysuckle.
- If you already have these plants in your landscape, remove them. If you have quite a few and feel that is daunting, remove one at a time until the job is done.
- This gives you an excellent opportunity to replace these shrubs with natives. There are some comparable shrubs that would still give you beauty, but not be a home for white-footed mice.
- Please see the Alternatives List.



### References

“Managing Japanese Barberry Infestations Reduces Blacklegged Tick”, S. C. Williams. et al., *Environmental Entomology*, **38**(4), 977-84 (2009).

“Research in Lyme Disease Risk as an Economic Benefit of Habitat Restoration”, S. Morlando, et al., *Restoration Ecology*, **20**(4), 498 – 504 (2012).

“Invasive Honeysuckle Eradication reduces Tick-Borne Disease Risk by Altering Host Dynamics”, B. Allan, et al., *PNAS*, **107**(43), 18523 - 7 (2010).

<http://www.pnas.org/content/107/43/18523.full>

#### Scientific content

Dr. Dan Duran  
Professor, Department of Biodiversity,  
Earth and Environmental Science at  
Drexel University

#### Written by

Heidi Shiver  
Bucks County Audubon Society

Anne Woodbury  
Doylestown Township Environmental  
Advisory Council (EAC)

#### Photo Credits

White footed mouse and deer tick:  
<https://www.google.com>; Barberry:  
<http://3.bp.blogspot.com>; Honeysuckle:  
<https://maxpull-tlu7l6lqiu.stackpathdns.com>;  
Burning bush: <https://i.pining.com>



©2005 M. Florsky

**Let's Limit  
Lyme Ticks  
You can help!**





## Limiting Lyme Disease

Know anyone who has had Lyme disease? Have you?

As you probably know, Lyme disease is transmitted to humans by the deer, or blacklegged, tick (*Ixodes scapularis*). You may also know, that Bucks County has a high number of Lyme disease cases and has one of the highest deer densities. White-tailed deer (*Odocoileus virginianus*) act as a vector for the disease, however, the primary culprit is the **white-footed mouse** (*Peromyscus leucopus*). Deer are large and easy for us to see. Mice are small and shy.

The life cycle of a deer tick is complicated. What is important to know is that a female deer tick needs a blood meal before she will lay her eggs. Ticks easily find white-footed mice in their nests, which offer the perfect opportunity for this. If we can disrupt the process at this point, we can reduce the overall population of deer ticks.

So, how do we do that?

The answer is in what shrubbery we have on our properties. Scientists have discovered that white-footed mice prefer to nest beneath **Japanese Barberry** and **Burning Bush** shrubs. While both of these shrubs are relatively inexpensive and easily available, neither is native to our area. Although it is not the same mechanism, **Japanese Honeysuckle** also provides a more humid environment, which is preferred by the ticks. By removing and replacing these non-natives with **native** alternatives, we can limit the populations of deer ticks.

## Identifying Japanese Barberry, Burning Bush and Japanese Honeysuckle



If you are not sure how to identify these plants, you can:

- ❖ Ask a landscaper or at a gardening store
- ❖ Take a sample to the Penn State Extension Office:  
215-345-3283  
([extension.psu.edu/bucks](http://extension.psu.edu/bucks))
- ❖ You can download a free app, such as *SmartPlant* and *GardenAnswer*

## Alternatives to Japanese Barberry (*Berberis thunbergii*)

Virginia Sweetspire (*Itea virginica*)

Summersweet (*Clethra alnifolia*)

Winterberry Holly (*Ilex verticillata*)

## Alternatives to Burning Bush (*Euonymus alatus*)

Black Chokeberry (*Aronia melanocarpa*)

Highbush Blueberry (*Vaccinium corymbosum*)

Northern Bayberry (*Morella pensylvanica*)

## Alternatives to Japanese Honeysuckle (*Lonicera japonica*)

Trumpet Honeysuckle (*Lonicera sempervirens*)

Cross Vine (*Bignonia capreolata*)

## Alternatives to Amur Honeysuckle (*Lonicera maackii*)

Spicebush (*Lindera benzoin*)

Red Osier Dogwood (*Cornus sericea*)

Silky dogwood (*Cornus amomum*)