The beautiful princess on the cover of this issue is a female *Anoplophora glabripennis*, commonly known as the Asian longhorned beetle (ALB). The SIGEST article in this issue, "A Mathematical Model for the Control and Eradication of a Wood Boring Beetle Infestation," by Stephen A. Gourley and Xingfu Zou, is motivated by recent infestations of ALB in the United States and Canada. This paper is very timely in view of the current state of the infestation in North America. The ALB is found only in suburban areas of the United States and Canada, and has not spread to forest or wilderness areas. At this stage we can, in principle, identify and destroy all the infected trees before the ALB can spread to uninhabited areas, where it will be much more difficult to control.

The signs of infestation are the holes the mature beetles leave in the tree after the larvae mature, as well as unseasonable yellowing or dropping of leaves. There is no effective chemical treatment for ALB, so the standard treatment for infestation is to cut down, chip, and burn the tree. This removes any eggs and larvae within the tree from the infestation.

The important parameters in the model are

- τ, the development time from egg to adult,
- σ, the time delay between infestation and detection of the infestation, and
- λ, the fraction of infested trees homeowners or city workers detect.

We can, in principle, control σ and λ, but τ is up to ALB. Suppose, for example, that an infested tree is always rapidly detected from damage to the foliage before the beetle matures. In this case $\lambda = 1$ and $\sigma < \tau$ (so the tree can be destroyed before the adults develop) and ALB is eradicated. That may appear to be obvious, but a proof is useful even in this case.

The integro-delay-differential equation model in the paper goes far deeper. The paper makes a simple assumption on the birthrate for all cases and shows that if $\lambda = 1$, this alone suffices for eradication for all τ and σ. The paper models the two cases $\sigma < \tau$ and $\sigma > \tau$ differently. Eradication is possible if $\sigma < \tau$ for $\lambda < 1$ but sufficiently close to one, which is a bit surprising since some infested trees will escape detection and produce adults. If $\sigma > \tau$, so the adults have time to develop before detection, then it may be impossible to eradicate ALB for $\lambda < 1$.

This paper is timely, presents a nice model of ALB infestation, and offers some hope that we can eliminate ALB from our hemisphere. We eagerly await similar results for bedbugs.

The Editors