

Does host origin influence patterns of utilization by BMSB?



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Halyomorpha halys

Polyphagous herbivore

Uses ornamentals as food
source

Does ornamental
landscape influence
nuisance numbers?

Could BMSB be designed
out of landscapes?

Research Objectives:

To Create BMSB Resistant Landscapes

We Need to Know Patterns of Host Utilization:

- Which trees are used for feeding and oviposition?
- How do taxonomy and host origin influence host use?



Study Site



Raemelton Farm
Adamstown, MD
Wholesale Commercial Nursery
~300 Acres



Survey Methods



2011 Nursery Surveys

1 min visual counts for
each plant part:

Leaves ▪ Fruit ▪ Bark (2m)

BMSB stages:

Egg Masses, Early nymphs,

Late nymphs, Adults

Scope of Survey

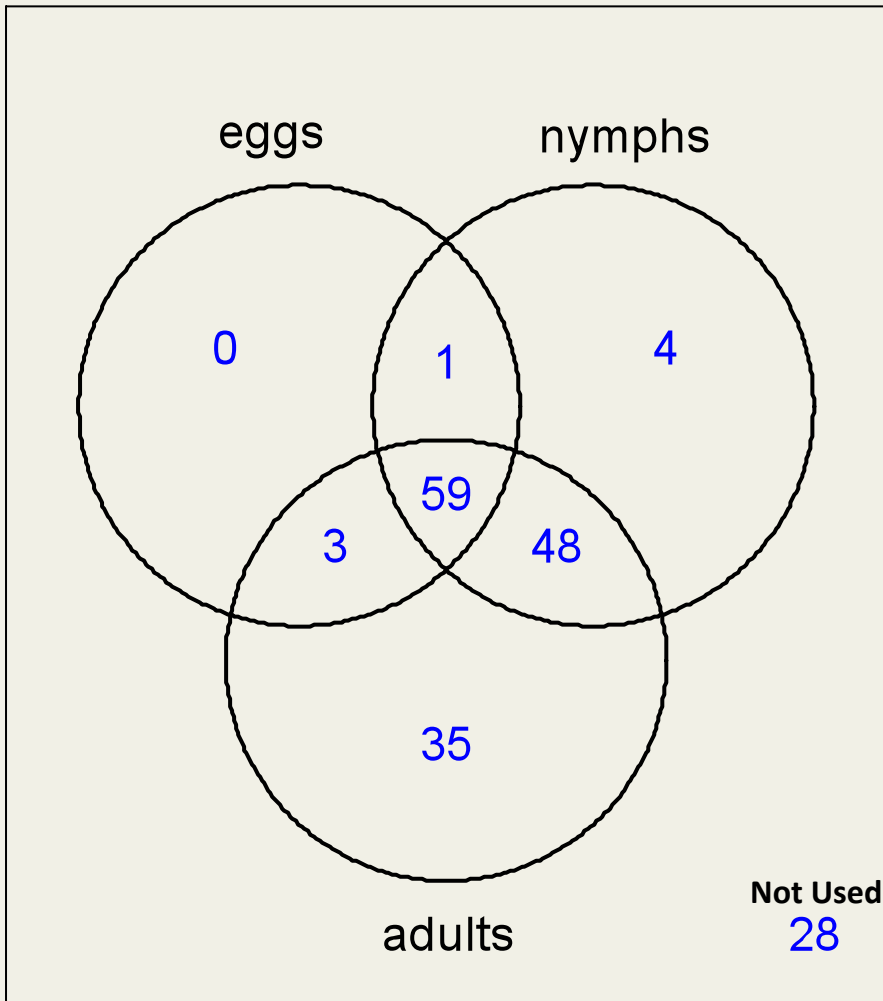


178 cultivars

2006 individual plants

7578 tree visits

13,406 stink bugs and egg masses



Total cultivars
sampled: 178

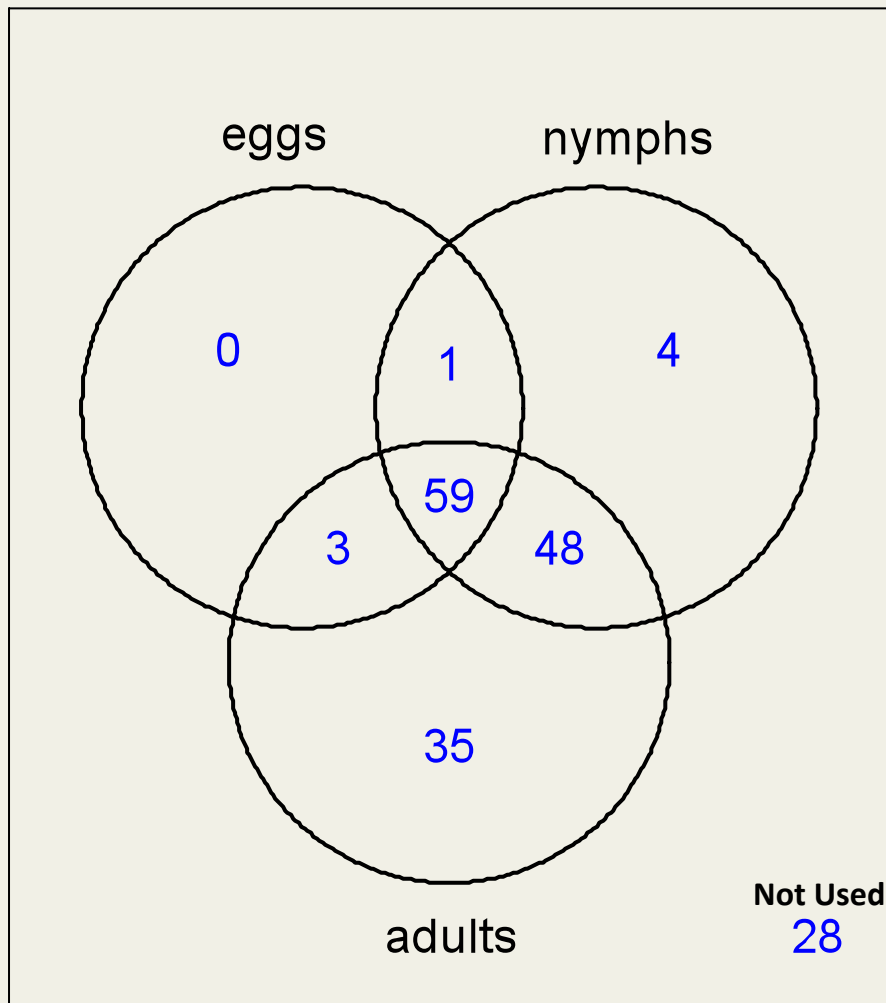
Total used by any
stage: 150

Cultivars used by stage

Eggs: 63

Nymphs: 112

Adults: 145



Top 10 Hosts for Active BMSB

- Syringa pekinensis 'Morton'
- Syringa pekinensis 'Zhang Zhiming'
- Acer x freemanii 'Jeffersred'
- Acer rubrum 'October Glory'
 - Acer rubrum 'Bowhall'
- Cercis canadensis 'Alba'
- Cladrastis kentukea 'Perkins Pink'
 - Platanus x acerifolia 'Bloodgood'
- Nyssa sylvatica 'Wildfire'
- Evodia danielii

Taxonomy and Host Origin

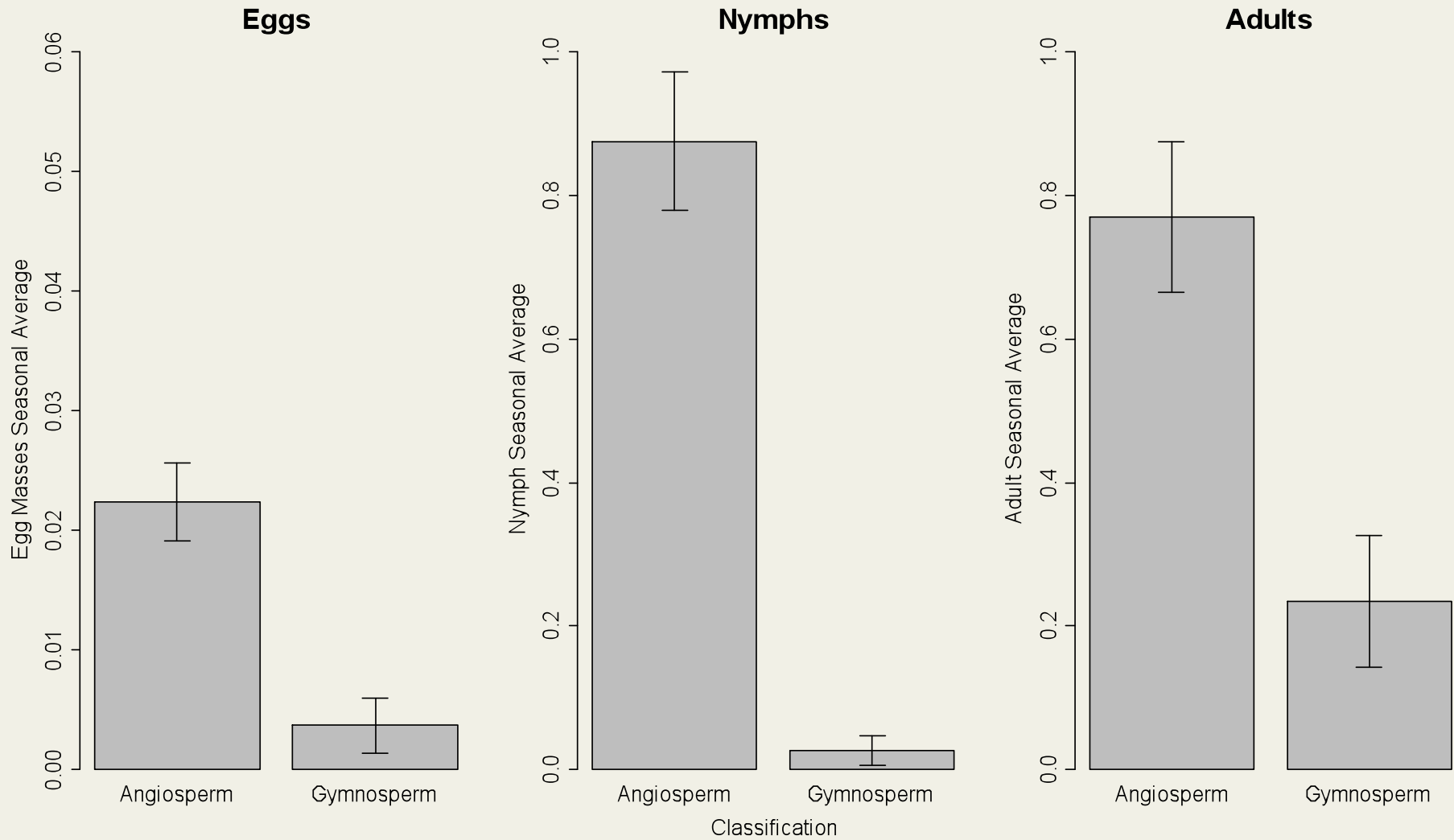
Taxonomy

Do Angiosperms and Gymnosperms differ in their use by BMSB?

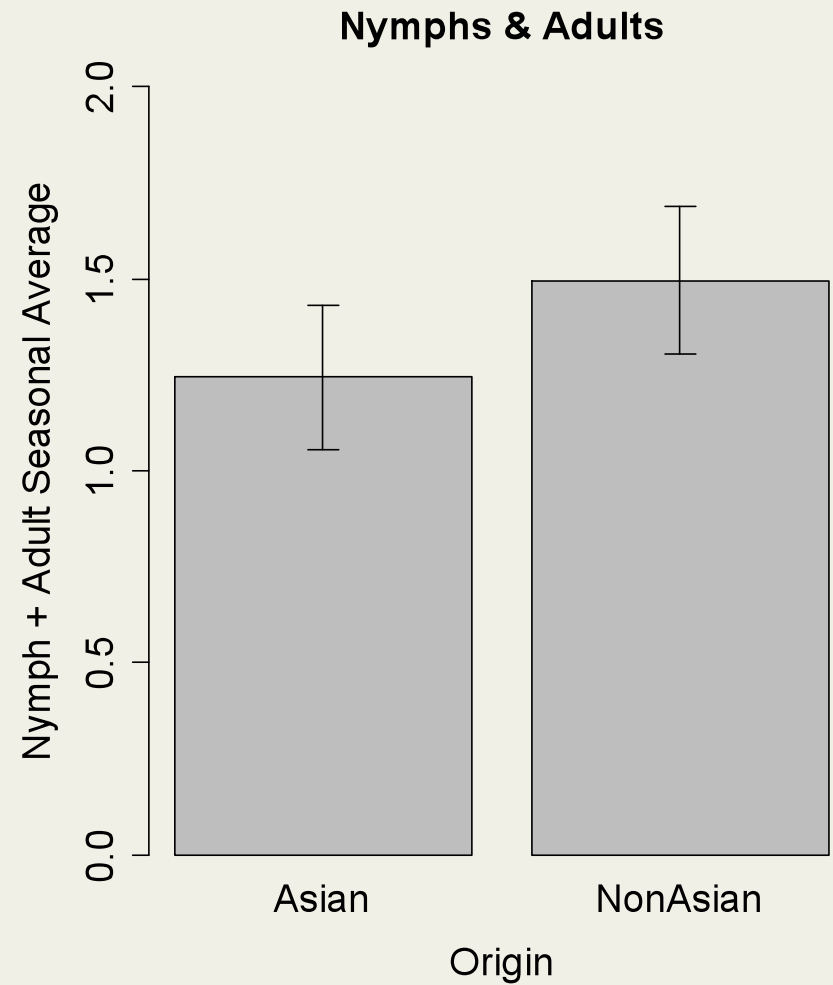
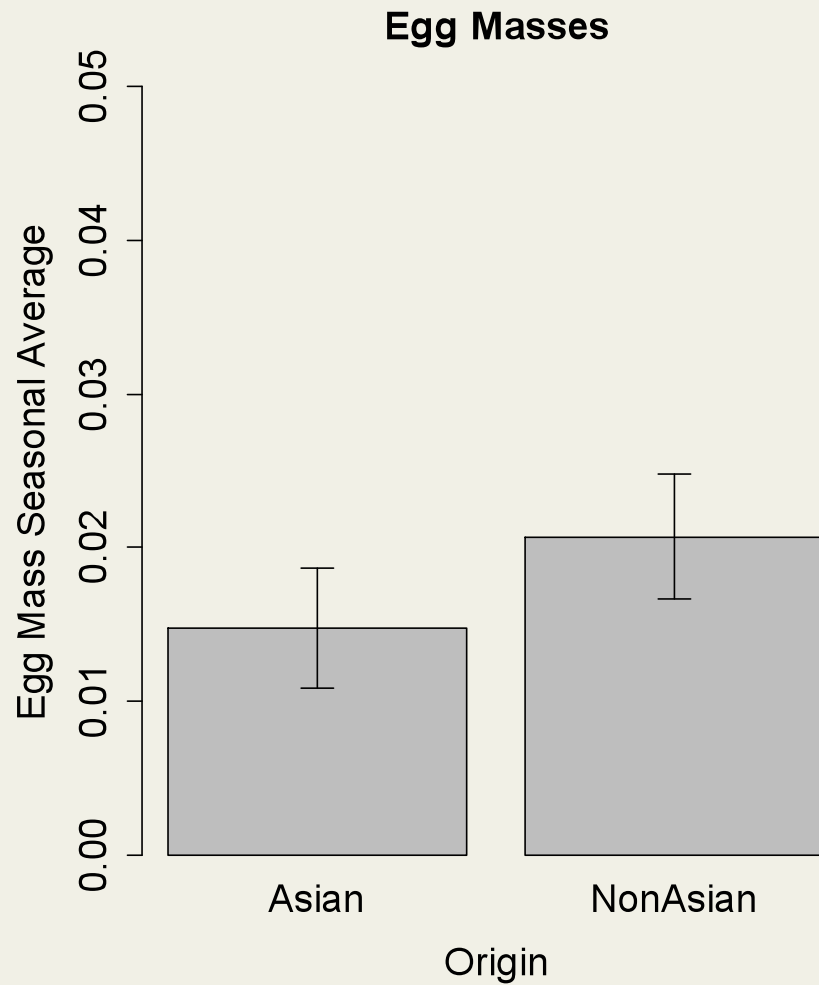
Origin

Does host use differ between plants of Asian and non-Asian origin?

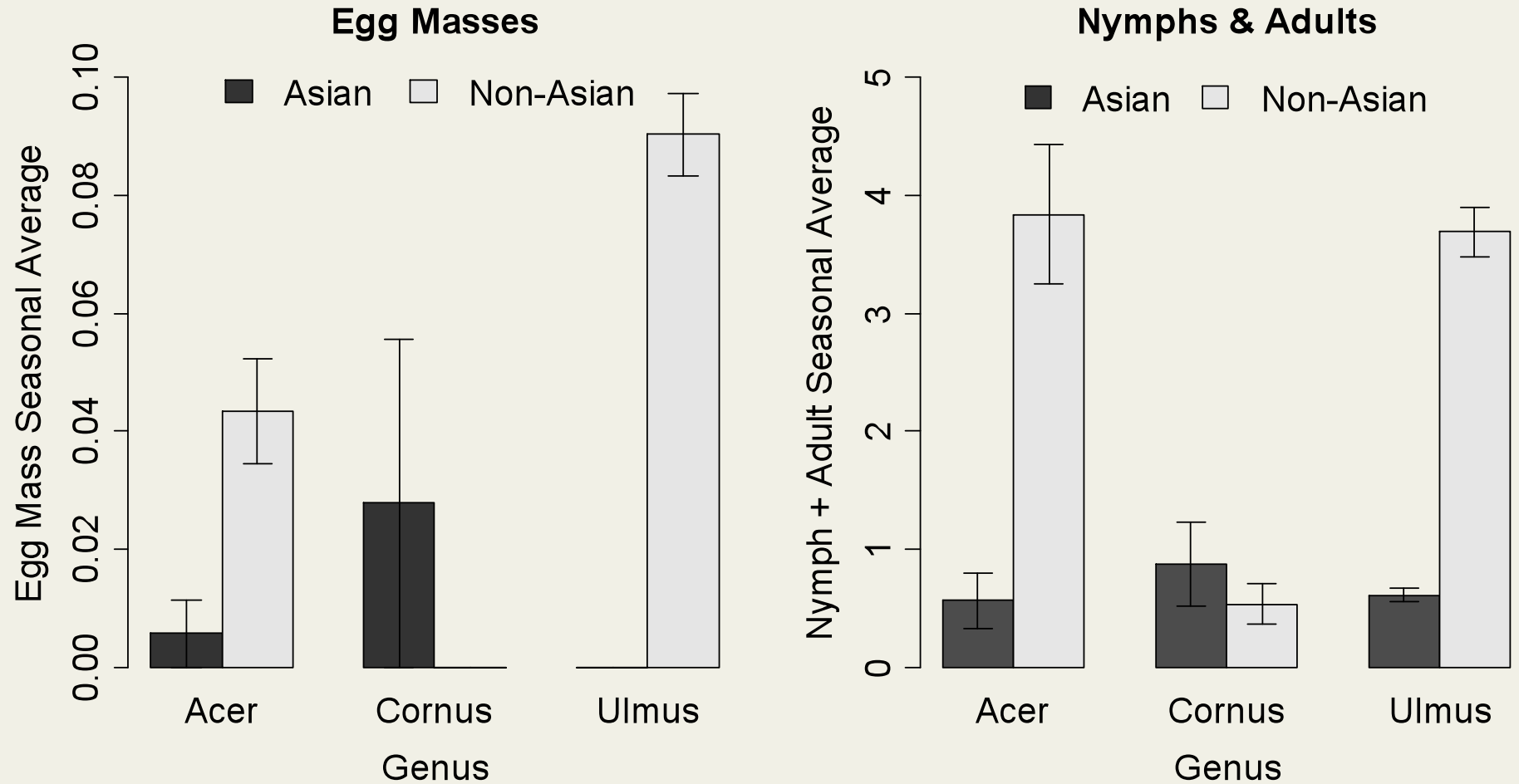
Taxonomy



Host Origin



Host Origin by Genus



Summary of Findings

BMSB used 150 of 178 cultivars surveyed

Later life stages use a wider range of hosts

Angiosperms strongly favored

Prefer hosts they “know” evolutionarily
(*Cornus*), but some naïve hosts (*Acer*, *Ulmus*)
may be favored

Begin to design BMSB out of landscapes

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UMD MAES

