

Digitized herbarium specimens document changes in phenophases and pathogen damage in Eastern United States maples

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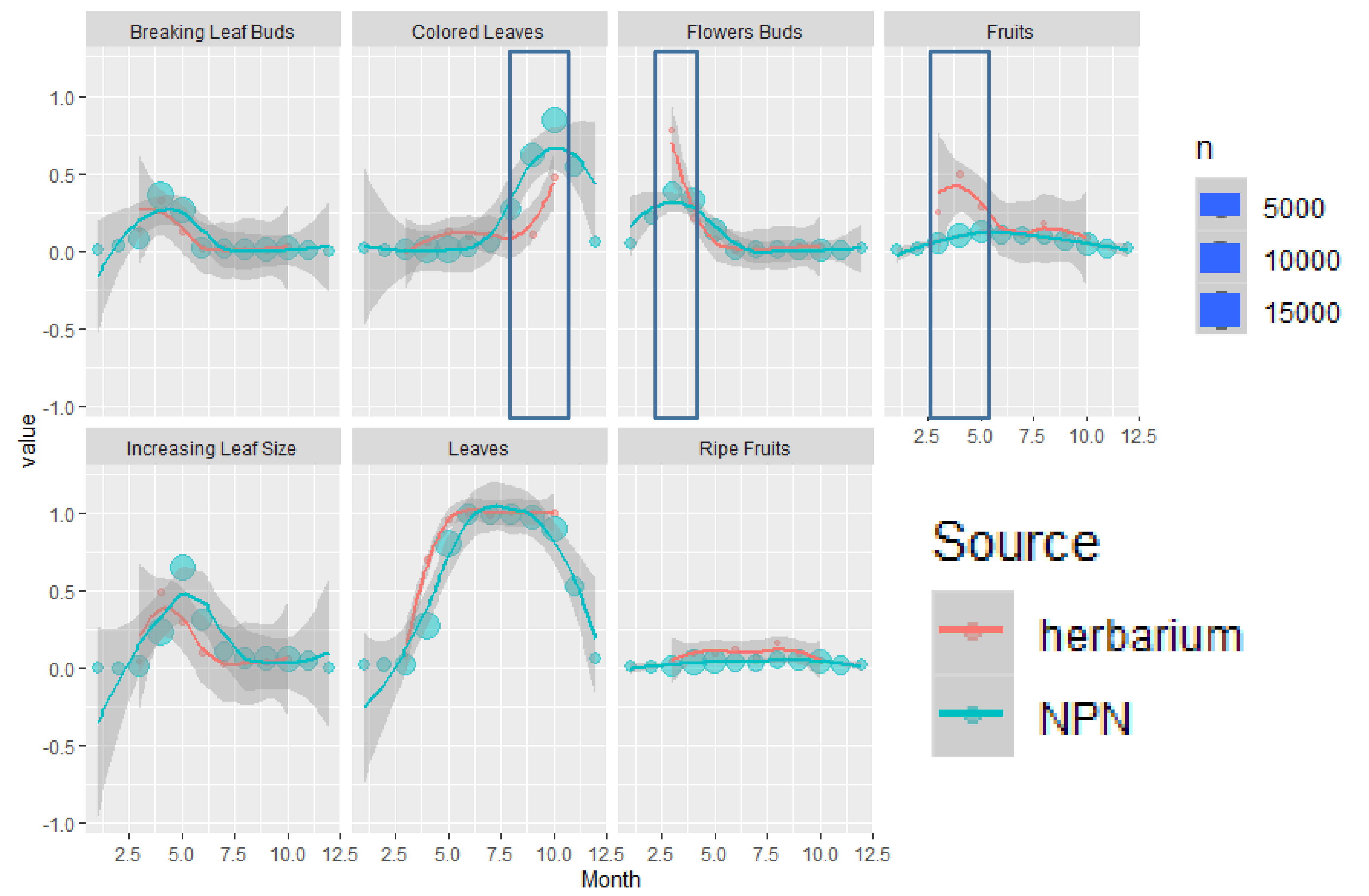
Scoring Herbaria Specimens for Phenological Activity



Mature leaves
 Insect damage
 Breaking buds
 Expanding new leaves
 Fruits

- Leaves
- Leaf buds
- Breaking leaf buds
- Increasing leaf size
- Colored Leaves
- Flowers or Flower buds
- Fruit or seeds
- Ripe fruit
- Leaf area removed
- Other damage

Herbaria -Derived Measures vs. Observational Measures



Decadal Increase in Damage Metrics



Evidence of Aseasonal Production

