

Is it curtains for conkers?

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Horse chestnut leafminer *Cameraria ohridella*



Bleeding canker of horse-chestnut caused by *Pseudomonas syringae* pv. *aesculi*



- 1) What is the impact of the leaf miner on horse-chestnut?
- 2) What is the impact of bleeding canker?
- 3) Is there any interaction between the leaf miner and bleeding canker?

Wimbledon Common, London

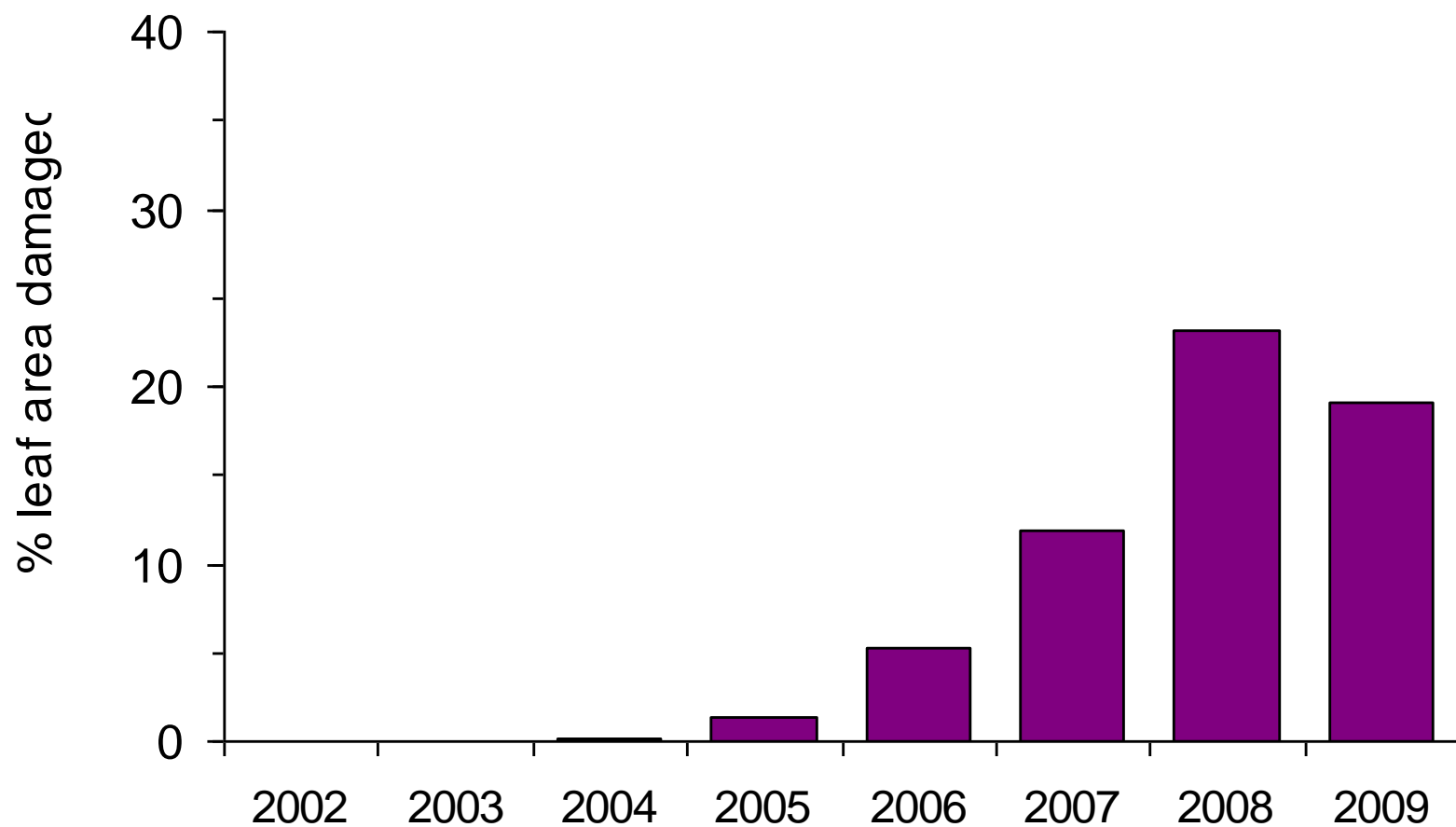


Research study on 194 horse-chestnut trees, *Aesculus hippocastanum*

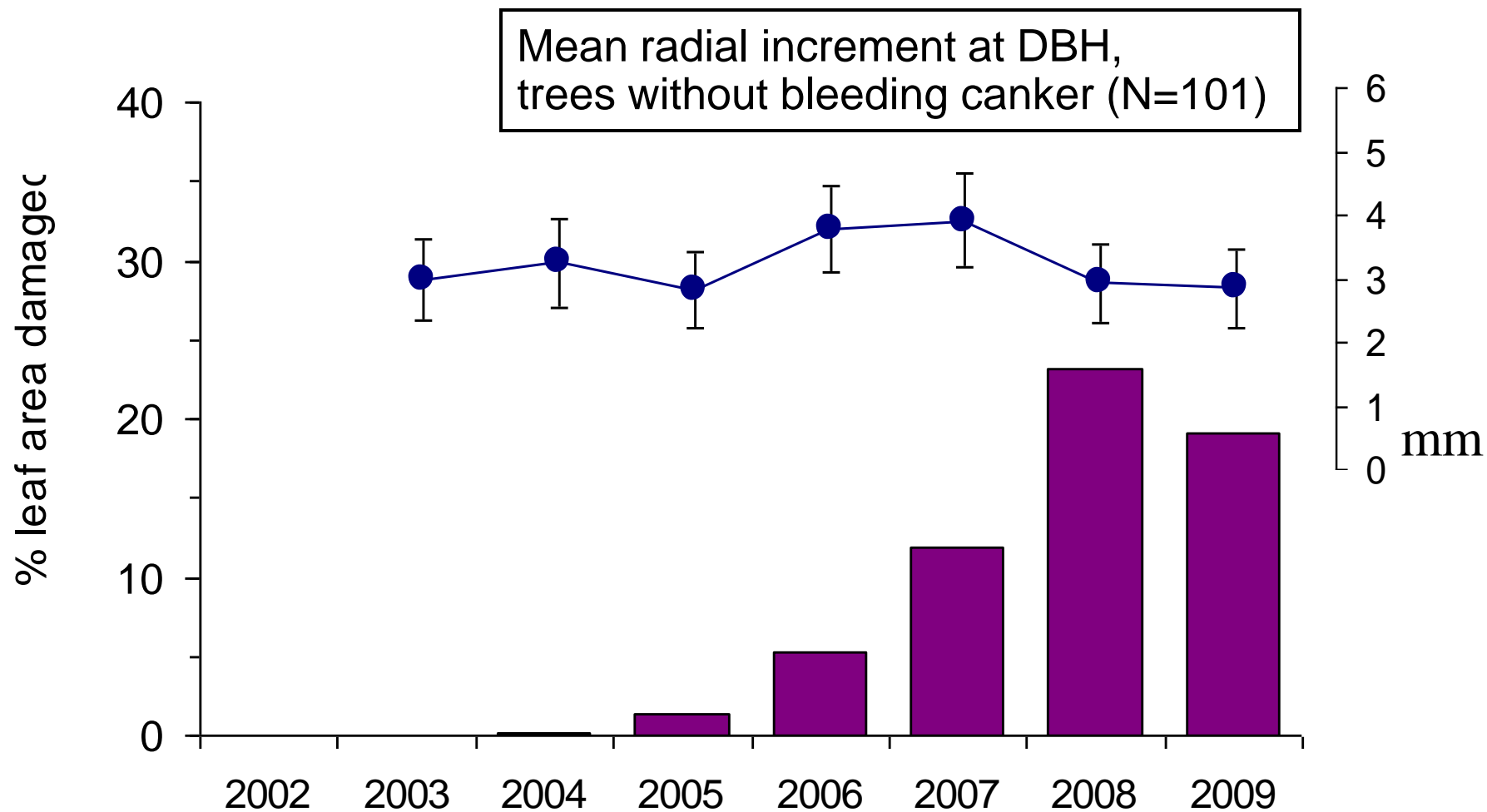
- assessed in July and Sept-October
- leaf area damaged by *Cameraria*
- infection by bleeding canker
- other pests & diseases
- growth (DBH)
- crown dieback
- canopy density



Leaf area damaged by *Cameraria*, 2002-2009 average for all trees (N=194)

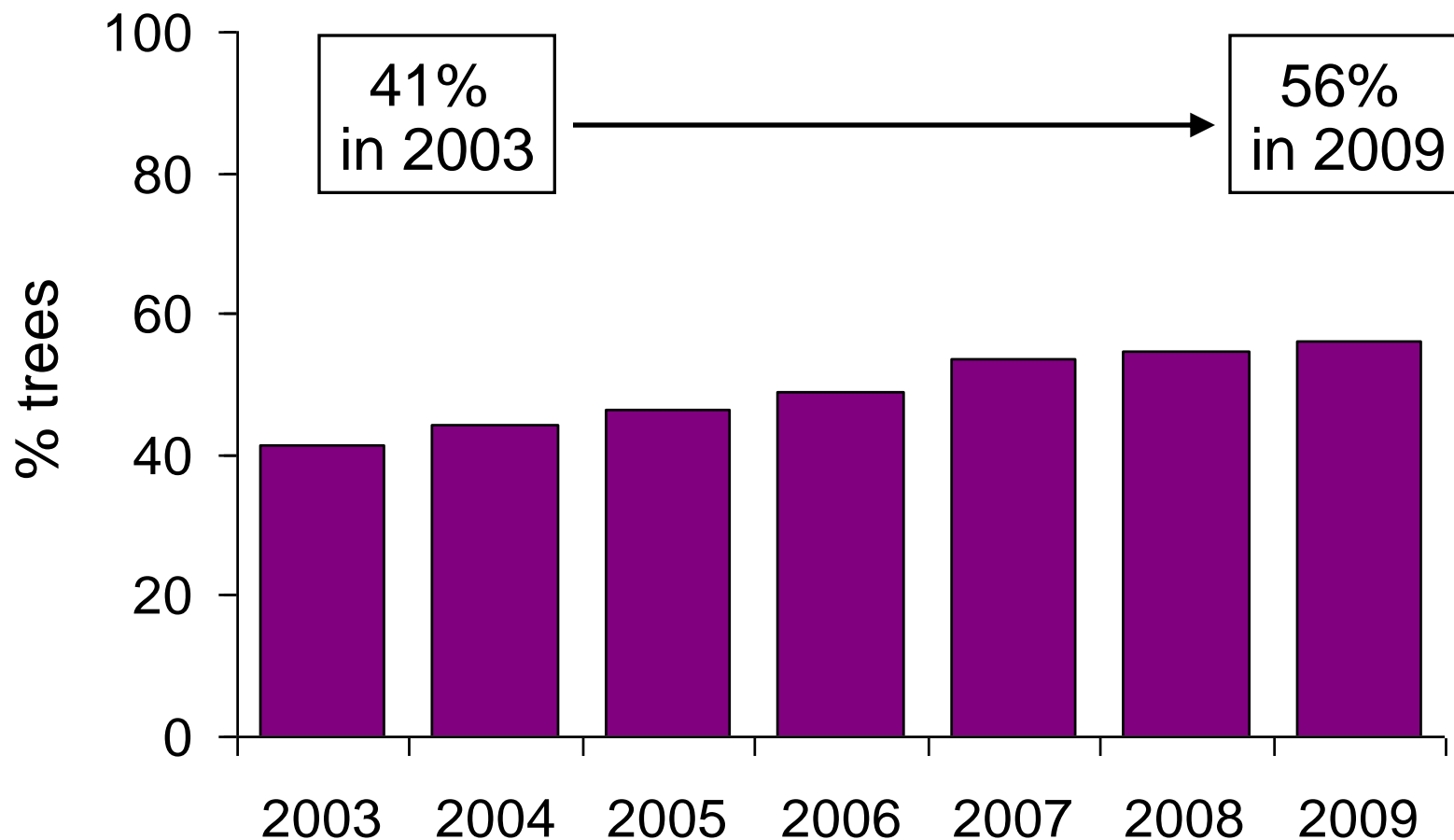


Leaf area damaged by *Cameraria*, 2002-2009 average for all trees (N=194)



What is the impact of bleeding canker?

Percentage of horse-chestnut trees affected by bleeding canker (N=194)



By September 2009, a total of 107 trees had shown symptoms of bleeding canker:

- 25 (23%)** - showed light or moderate bleeding in the past, but have since improved and currently show no sign of infection
- 44 (41%)** - show light or moderate symptoms (*17 of these trees have improved from previously more severe infection)
- 26 (24%)** - are severely affected and are declining
- 12 (11%)** - have died or been felled

Does damage by the leaf miner
increase susceptibility to bleeding
canker?



White horse-chestnut,
Aesculus hippocastanum (N=194)

% leaf area damaged by *Cameraria* = 20%

% trees affected by bleeding canker = 56%



Red horse-chestnut
Aesculus x carnea (n=44)

% leaf area damaged by *Cameraria* = 0%

% trees affected by bleeding canker = 66%

White horse-chestnut trees, *Aesculus hippocastanum* (September 2009)

LOW *Cameraria*: 2-10% of the leaf area damaged
by mines

- healthy, no bleeding canker = 54 trees (59%)
- infected with bleeding canker = 37 trees (41%)

HIGH *Cameraria*: 25-75% of the leaf area damaged
by mines

- healthy, no bleeding canker = 46 trees (58%)
- infected with bleeding canker = 34 trees (42%)

White horse-chestnuts, 2002-2009

leaf miner damage and incidence of bleeding canker

