5 Minutes on Mammals in Hedges

Methods and Initial Findings

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The Biodiversity Value of Urban Hedges
• Birds, Mammals, Invertebrates

Mammal Study
• **Aim** – do mammals use urban hedges?
• Does likelihood vary with hedge species?
• Which species of mammal?
Mammal Study

• 2 Survey methodologies
  • Feeding / Hair tubes
  • Footprint tubes
  • Cheap – challenges of urban

• Autumn surveys

• 3 hedge spp. & Control Locations – Data
Feeding Tube Data Analysis

- Evidence
  - Droppings = 9
  - Hair = 40
  - Feeding remains = 95
  - Other = 17
Q1 Is the evidence of small mammals uniformly distributed with location type?

All locations $P=0.020$

Hawthorn - control $P=0.031$

Hawthorn - privet $p=1.000$

Between Hedges $p=0.089$
Q2 Is the evidence of small mammals uniformly distributed with height?

Not significantly different

$p=0.476$
Footprint Tube Data Analysis

• Evidence
  • From sheets with footprints on

• Analysis
  – Comparisons between all – Ground level
  – Comparisons between hedges – all data
  – Only Mice, Voles & Shrews
Q1 Is the number of prints of all species the same across location type?

All locations
Ground level data

Hedge Spp.
All levels

$p=0.139$

$p=0.067$
Q2. Is the number of prints of Mice, Voles and Shrews the same across location type?

All locations $P=0.017$

Ground Level data
Hawthorn – control $P=0.029$
Hawthorn - beech $P=0.041$

Hedges $p=0.021$

All Level data
Hawthorn – beech $p=0.017$
Q3 Are the number of footprints of all species the same at different *heights* within the hedges?

All Spp.  \( P=0.181 \)

Mice, Voles, Shrews  \( P=0.259 \)
Mammal Summary

• Feeding tubes
  - Significantly more mammals found in hawthorn hedges than control locations –
  - No significant difference in evidence of mammals across hedge species –

• Footprint Tubes
  - Significantly more M,V,S in Hawthorn than beech or control locations

• Mammals found in similar numbers at different heights of the hedge
Implications

• Hedges should be protected and integrated into urban planting schemes as habitat for small mammals
• Hawthorn and Privet hedges provide a preferred habitat
• Hedges provide a 3D habitat for small mammals
Methods Comparison

Feeding tubes
- Droppings = 9
- Hair = 40
- Feeding remains = 95
- Other = 17

Footprint tubes-ID
- 87.5%
Hair Protein ID

• Less invasive technique
• Suitable for endangered species
• Uses protein extraction (Wong et al, 2016)
• RP-HPLC to map out Proteins
• Compare graphs
Thank you

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