Title: Nesting Material Preferences in Wild Hazel Dormice (*Muscardinus avellanarius*). *MSc dissertation, University of Plymouth, 2009*

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Background to Study:
A number of previous studies have identified that dormice will expend energy in order to collect materials from specific plants for nest construction. However, little work has been undertaken on which specific plant species are utilised, how much energy dormice are willing to expend to obtain these preferred species and why certain materials are used over others in nest building activities.

Method:
- 42 dormouse nests were collected from 6 sites across South West England.
- Nest materials were separated and species were identified in laboratory conditions, classified as bark/leaf and the visual percentage of each material was recorded.
- Distance from sampled nest site to nearest material source was measured. If nest material and source tree were the same this was recorded as 0 m.
- The 8 most common plant species found within nests were picked and analysed in terms of curling and fragility change to establish if leaf type was related to thermoregulation of dormice (ie: preference was shown for those leaf species which dry quickly). This was recorded for a period of 10 days.

Key Results:
- A total of 18 species were used in nest building, 8 of which proved to be 'common' (honeysuckle, hazel, oak, silver birch, bramble, ivy, beech & hawthorn). Honeysuckle, hazel, ivy and oak were all present in 60 - 80% of nests.
- Mosses were observed in over 50% of nests however this is presumed to be due to building on bird nests as opposed to collection by dormice.
- Nests were observed to have two distinct layers, with stranded materials woven as the core of the nest and leaves forming an outer shell.
- No statistical significance was established between the presence of material within a nest and the distance to that material; largest mean distance recorded as 19.2m $\pm$ 3.9m for honeysuckle.
- The percentage of each material within the nest decreased as distance from the resource increased. The percentage of honeysuckle bark influenced the amount of other materials used suggesting honeysuckle is stated as an important material in nest construction.
- No correlation was established between curling or fragility (dryness) of leaf species and their use in dormouse nests.
- Several nests did not incorporate materials from the specific tree species in which it was located, indicating that energy is expelled in the pursuit of optimum materials.

Key messages to landowners and managers derived from these results:
- When locating nest boxes ensure that suitable nesting material (eg: honeysuckle) is available to prevent excessive energy expenditure.
- Maintain high species diversity to ensure suitable nesting material is available within dormouse sites.

Key words/phrases
Dormice; *Muscardinus avellanarius;* nest building material; energy expenditure; honeysuckle