

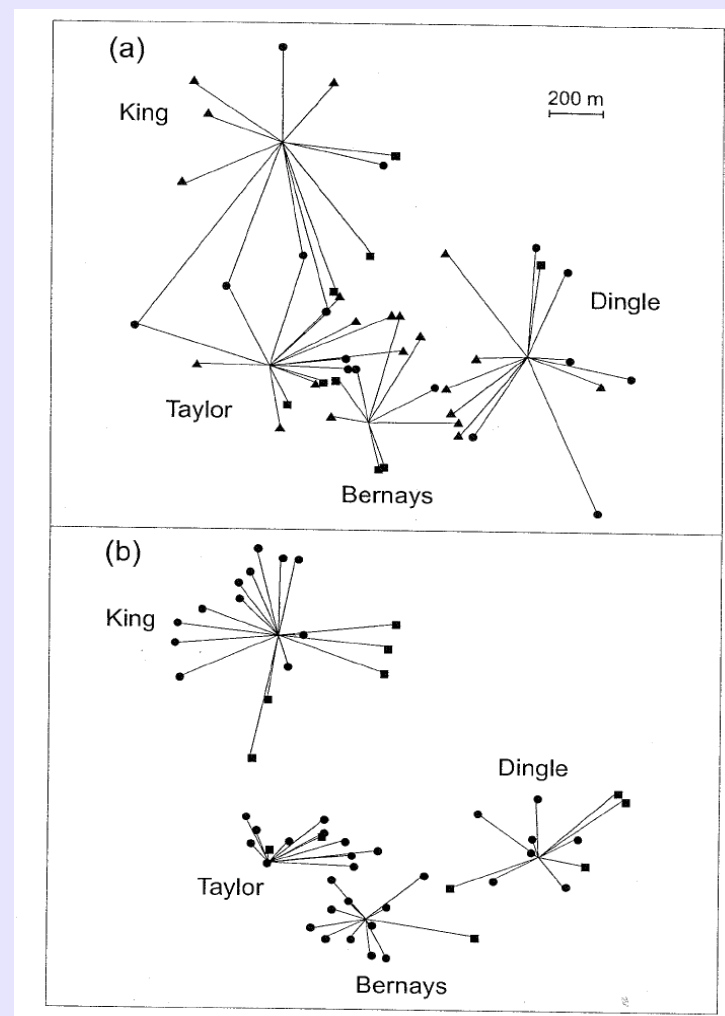
Badger ecology and TB

Mike Hutchings



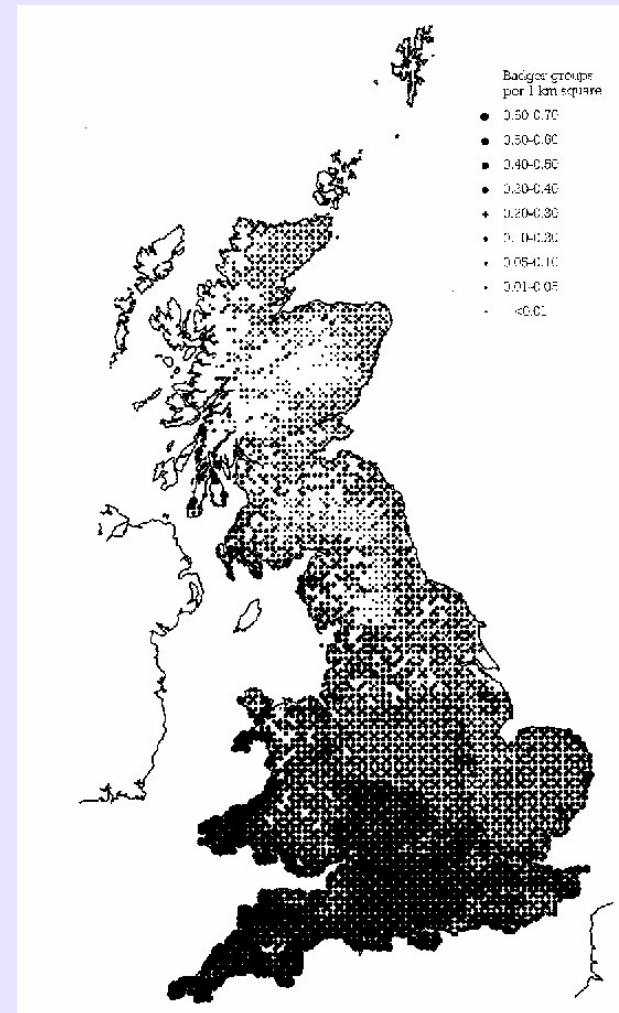
Badger basics

- Britain's largest carnivore (~12kg)
- Group living, solitary foraging
- Social groups defend territories
- Wide dietary breadth (earthworms to fruit)
- Scent-marking the main form of communication



British badger population

- Current GB population estimate 300,000
- Badgers are NOT endangered
- Legal protection for persecution NOT conservation
- 25% of the population in South West England
- 10% of the population in Scotland



Badgers as hosts for TB

- Long term monitoring shows that TB does not spread rapidly through badger populations
- TB is NOT a major cause of death in badgers (e.g. relative to roads @ 50,000 pa)
- Badgers can survive for years whilst infected
- Vertical (mother to cub) and horizontal (aerosol and bite wounding) are likely main routes of badger-badger transmission

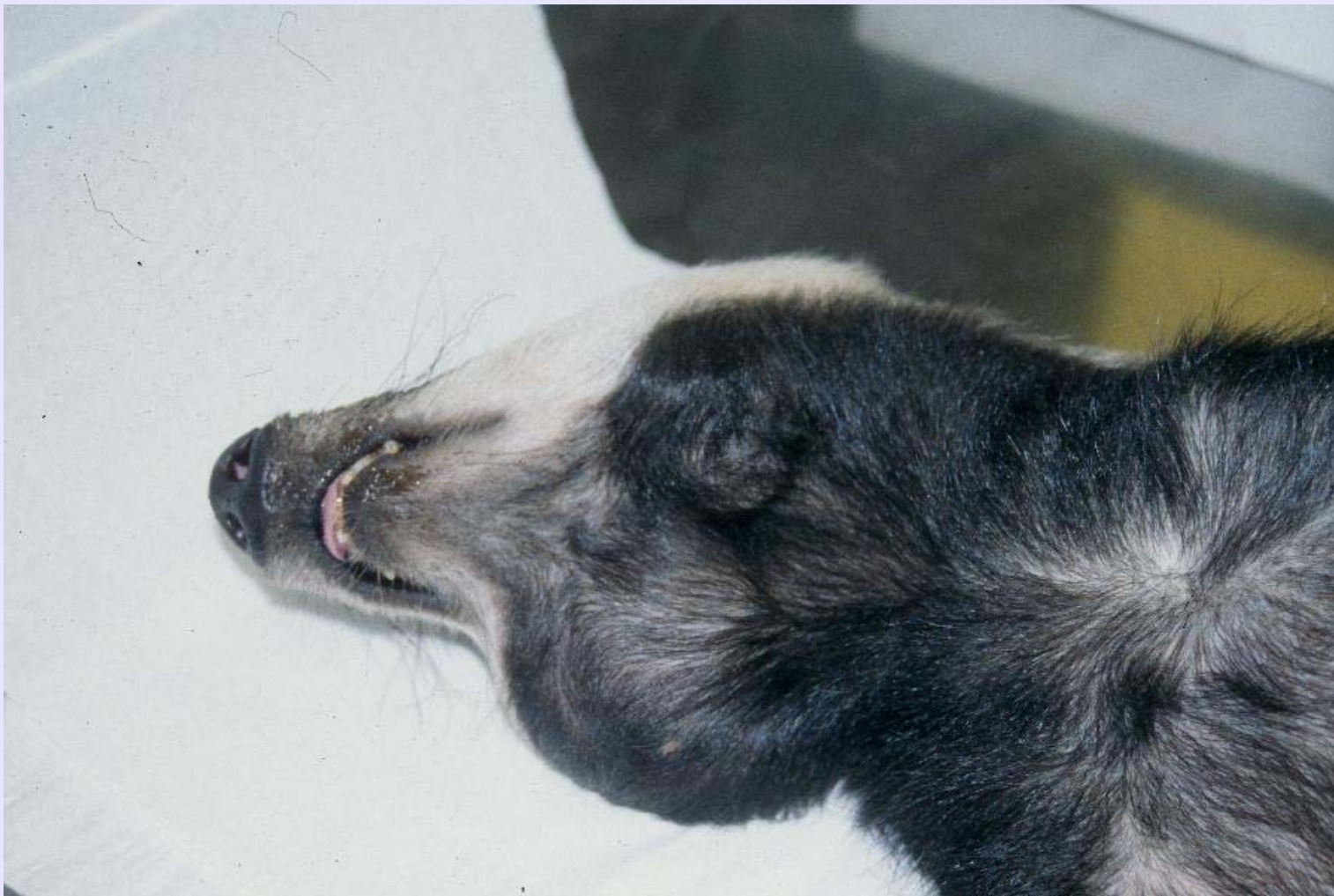
Studying badger ecology



Radio transmitter collar



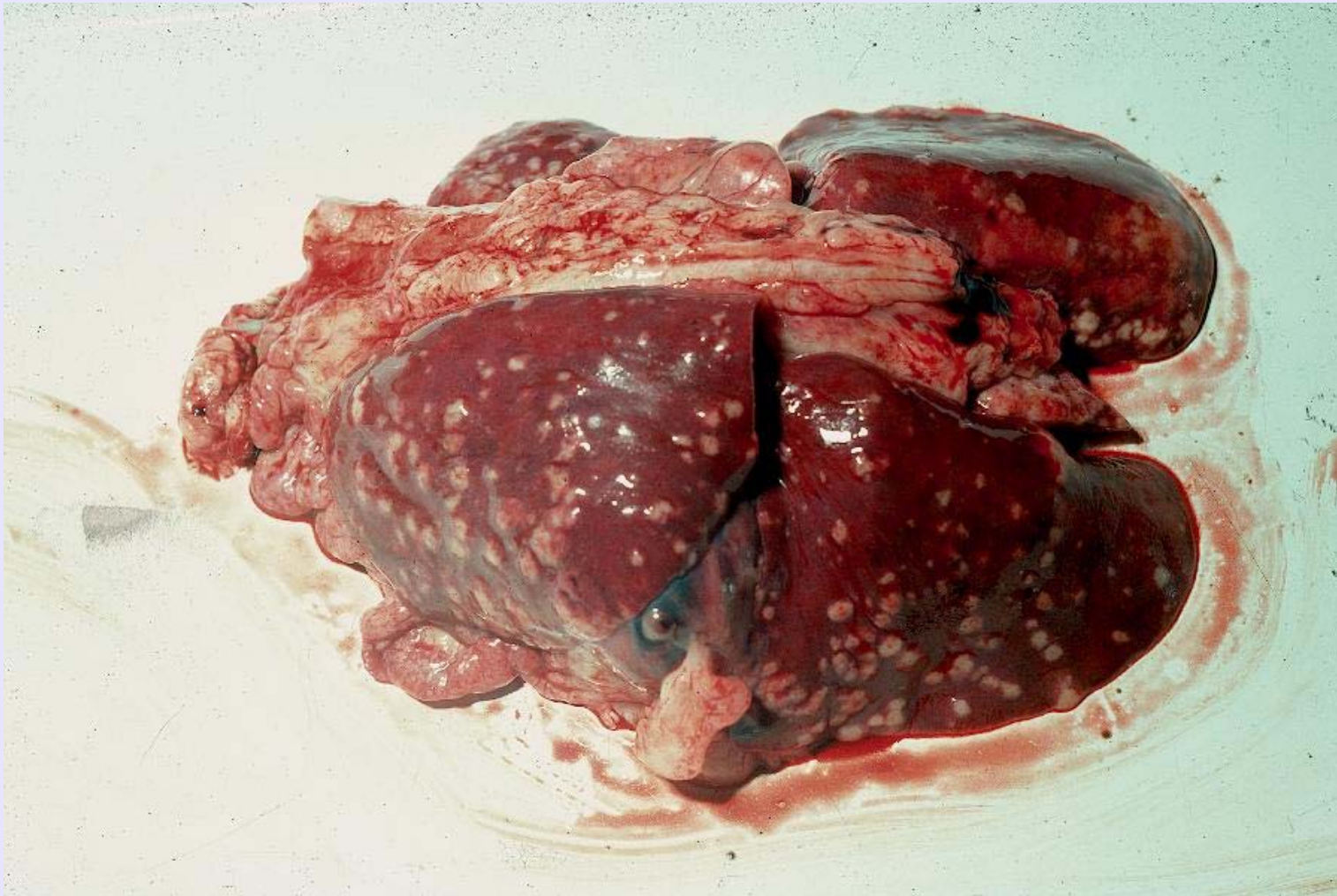
Swollen abscess has not burst (yet!)



Burst sub-mandibular Lesion



Miliary TB in badger lungs



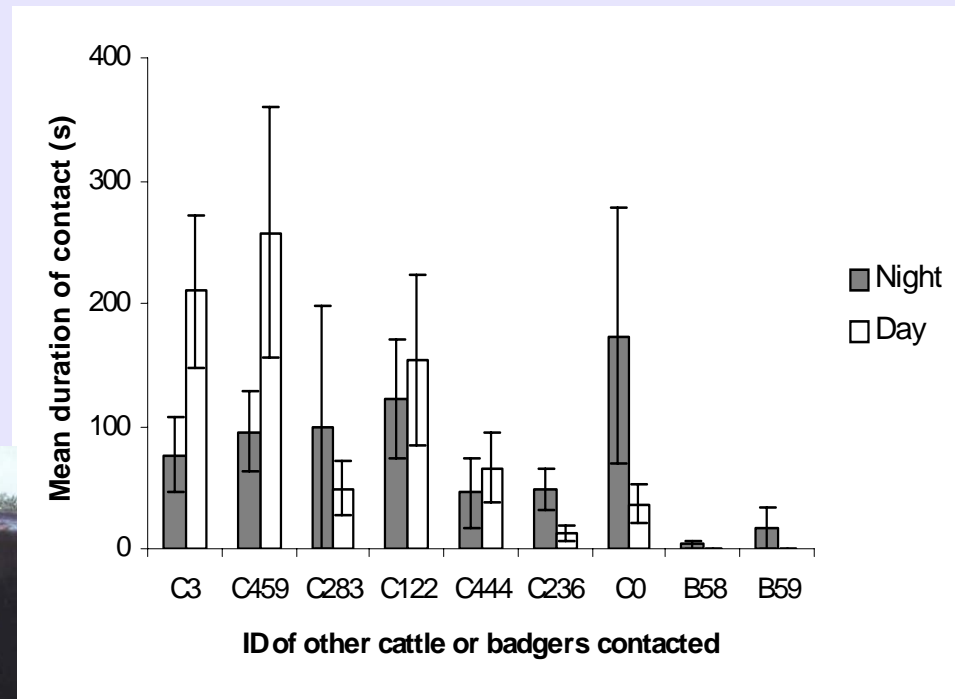
Badger-cattle routes of TB transmission



- Direct transmission through close proximity?
- Indirect transmission via contaminated pasture, feed stores and water troughs?

Potential for direct transmission

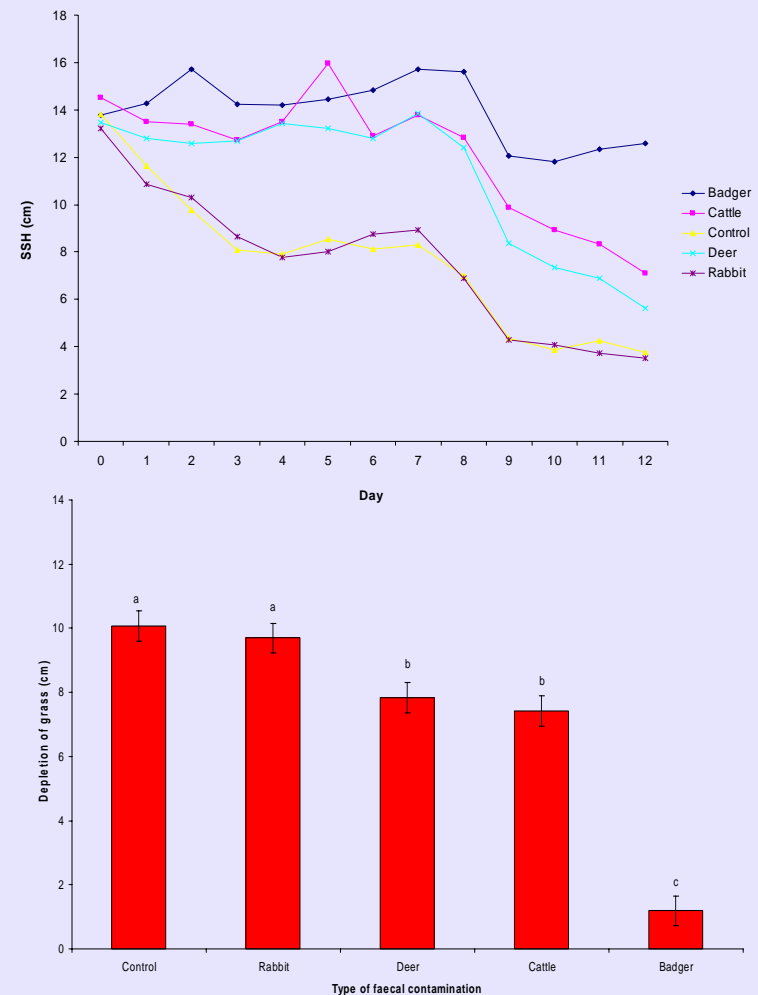
- Cattle investigating 'hoochers'
- Badgers foraging on pasture
- Badger setts in fields



Badgers as contaminants of pasture

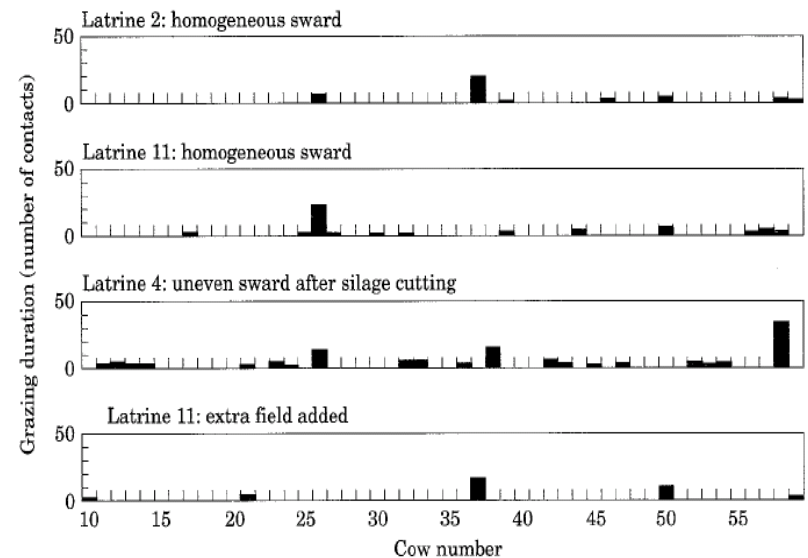
- Badger latrines: localised accumulations of faeces, urine and glandular excretions
- Urine trails: ~ 1m in length usually associated with restricted access linear features e.g. hedgerows
- Grazing cattle avoid badger faeces but not badger urine

Cattle avoid badger faeces



Aerosolised inhalation vs ingestion

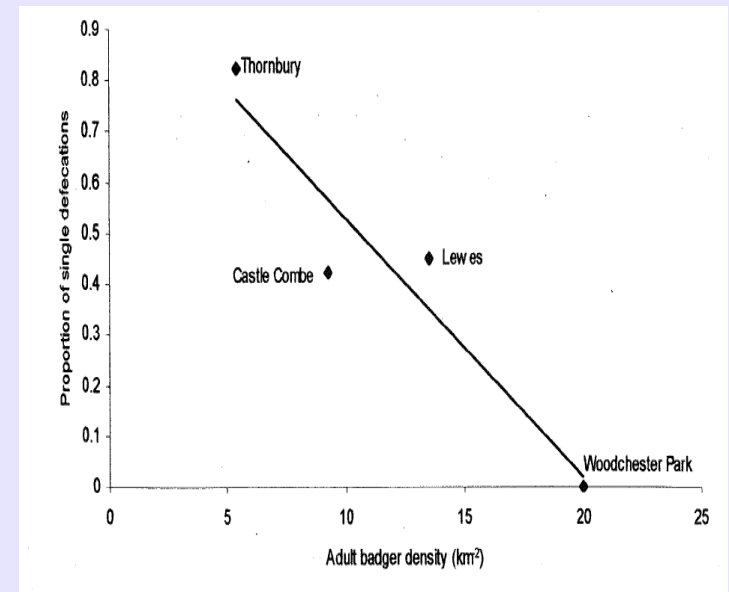
- Faeces avoidance creates:
 - Tall nutrient rich swards attractive to cattle
 - large numbers of investigative contacts with little grazing by large numbers of cattle
- Lack of urine avoidance results in high levels of grazing contact with fresh urine by few cattle



If aerosolised inhalation is the main route of transmission then latrines are high risk but if grazing is a route of transmission then latrines are low risk

Controlling TB in badgers

- Culling: could it make things worse?
 - Reduces local badger numbers
 - BUT badgers remaining behave differently
 - Increased population mixing
 - More dispersed scent-marking strategies
- Vaccine: current separate UK and Ireland trials of BCG based badger vaccine



Returning home

