

# Impact of hedgehogs in urban forest fragments

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# Bush fragments in Auckland

- Thousands of forest fragments
- Refuge for native species
- Can provide habitat, food and shelter

# Invasive Species

- Negative impact on native biodiversity in New Zealand
- Less understanding of hedgehogs impact compared to other mammals





# Hedgehogs

- Introduced from 1870 and are now widespread in New Zealand
- Principally insectivorous but have also been shown to eat birds, lizards and eggs
- Main insects that they eat are beetles, earwigs and crickets

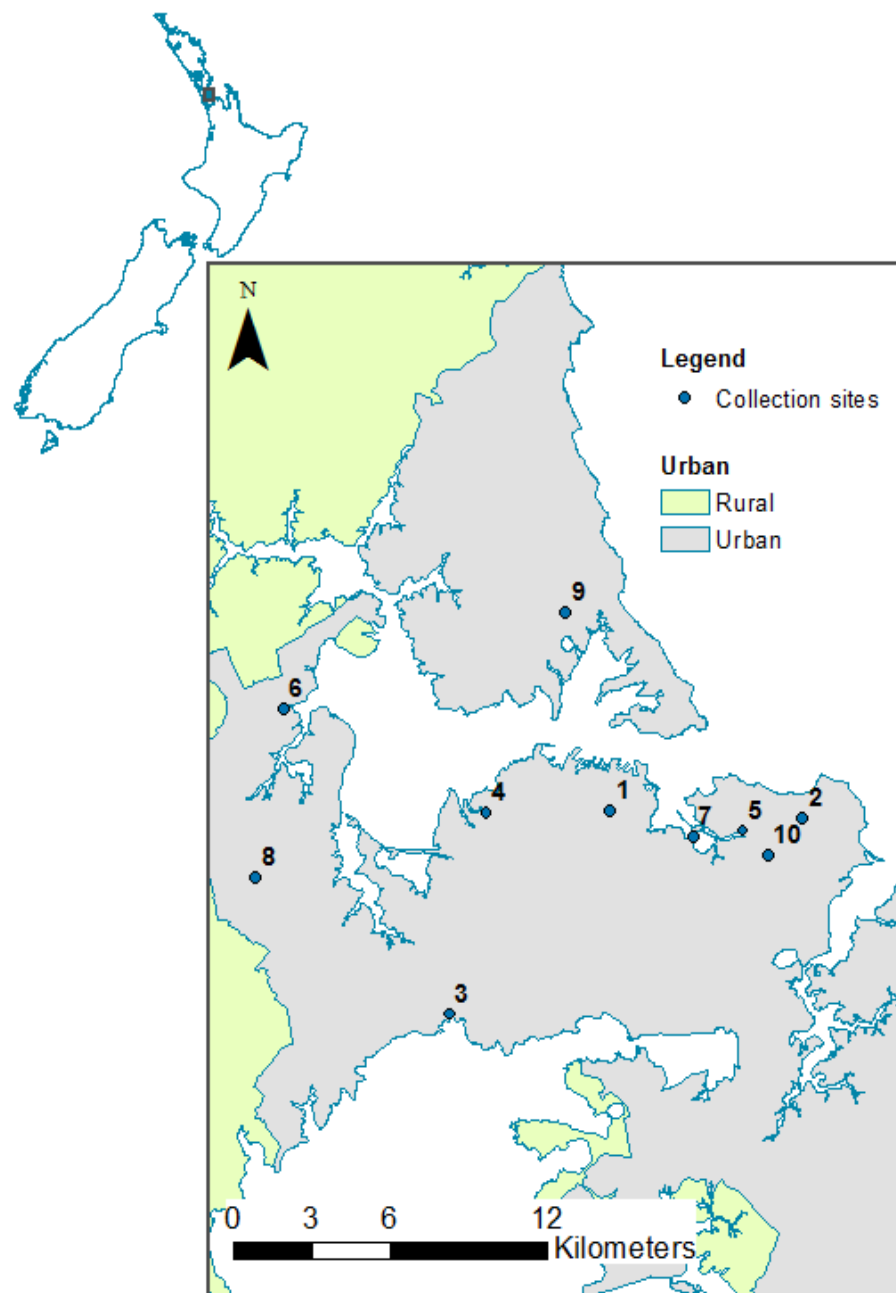


# Aims

- 1: Determine what hedgehogs are feeding on in the urban forest fragments
- 2: Develop a damage function
- 3: Determine the relationship between the chew cards and camera trap index for rats and hedgehogs
- 4: Determine the relationship between the relative abundance of hedgehogs and rats

# Aim 1

- Determine what hedgehogs are feeding on in the urban forest fragments

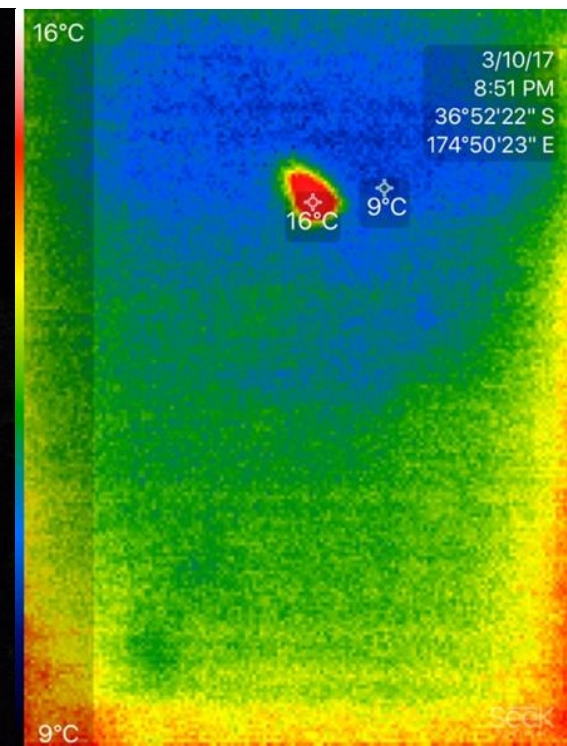
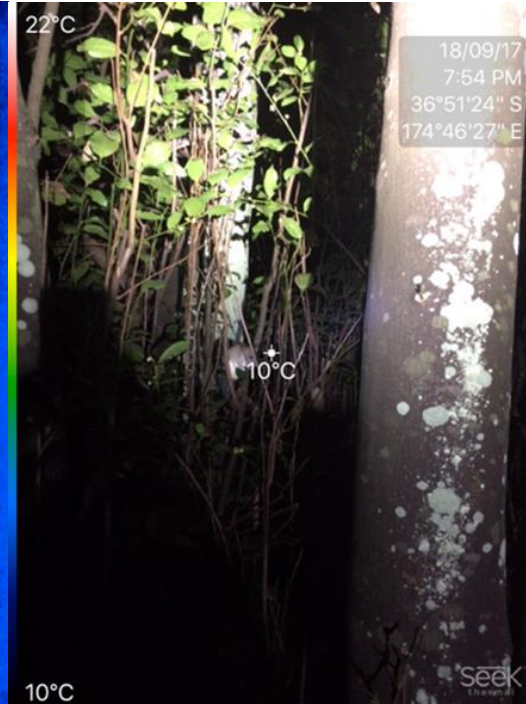
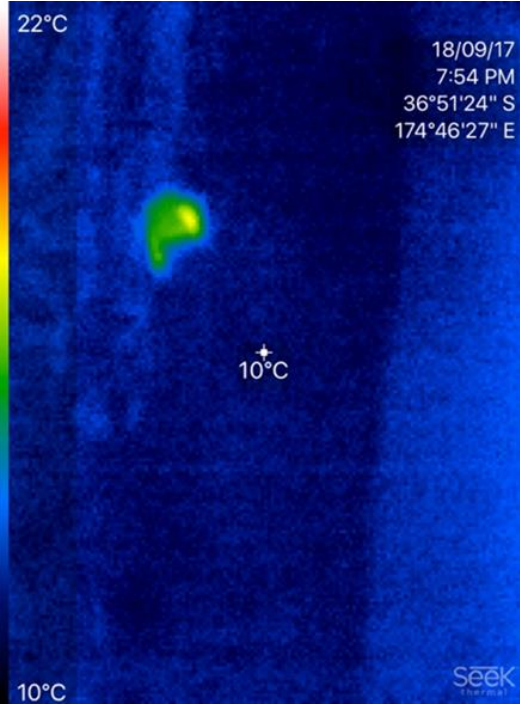


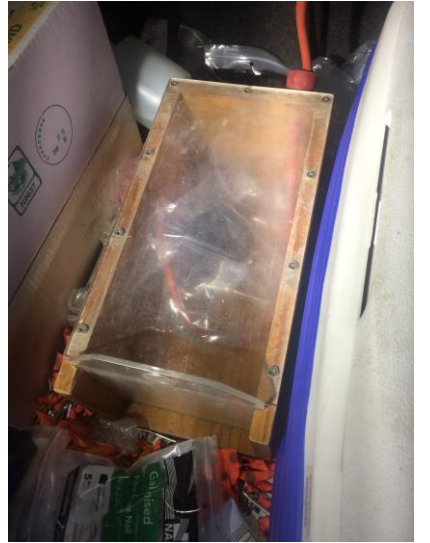


# Stomach content analysis

- Thermal scope





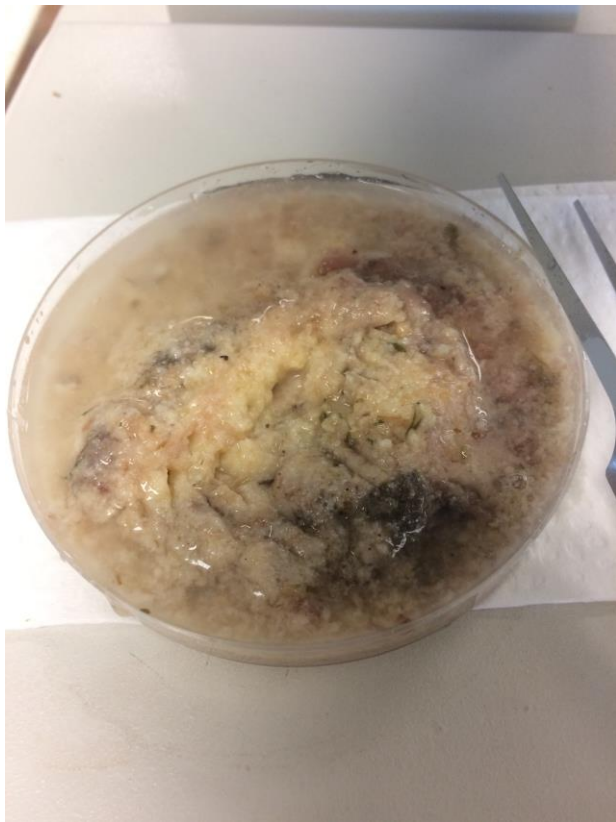




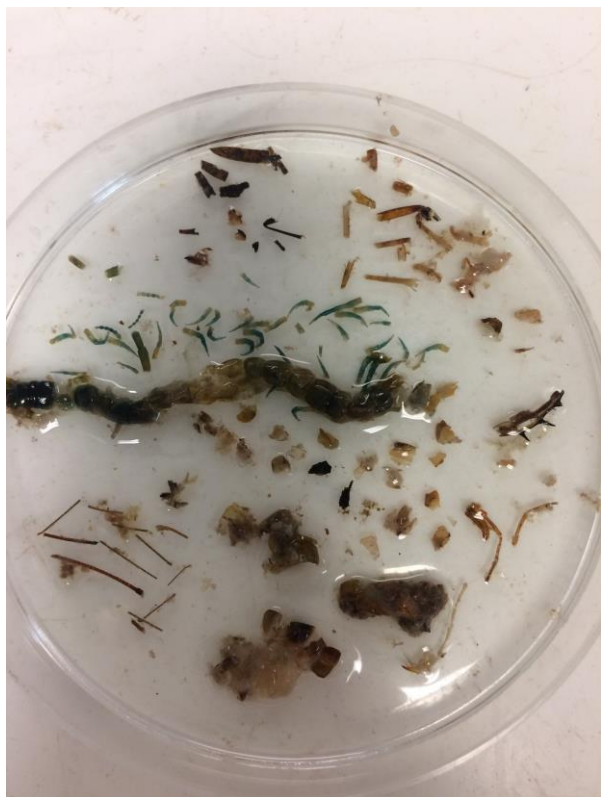


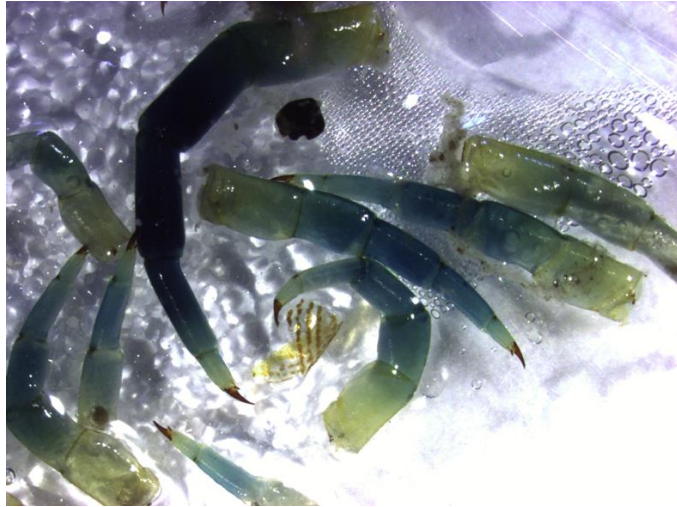




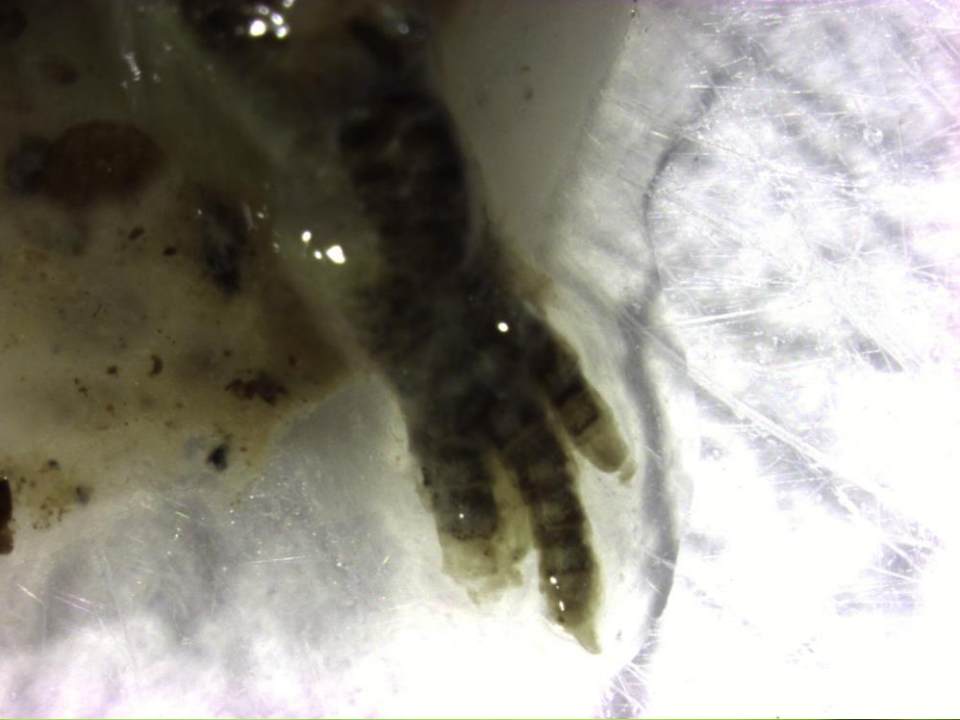








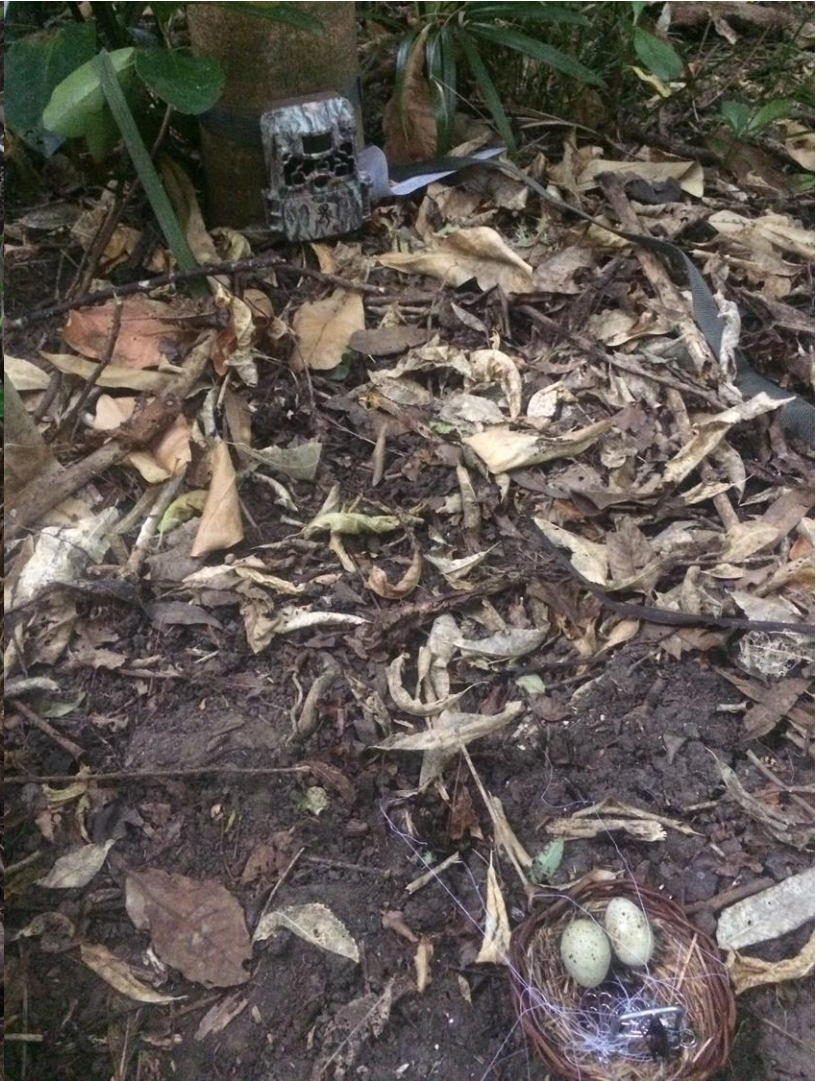


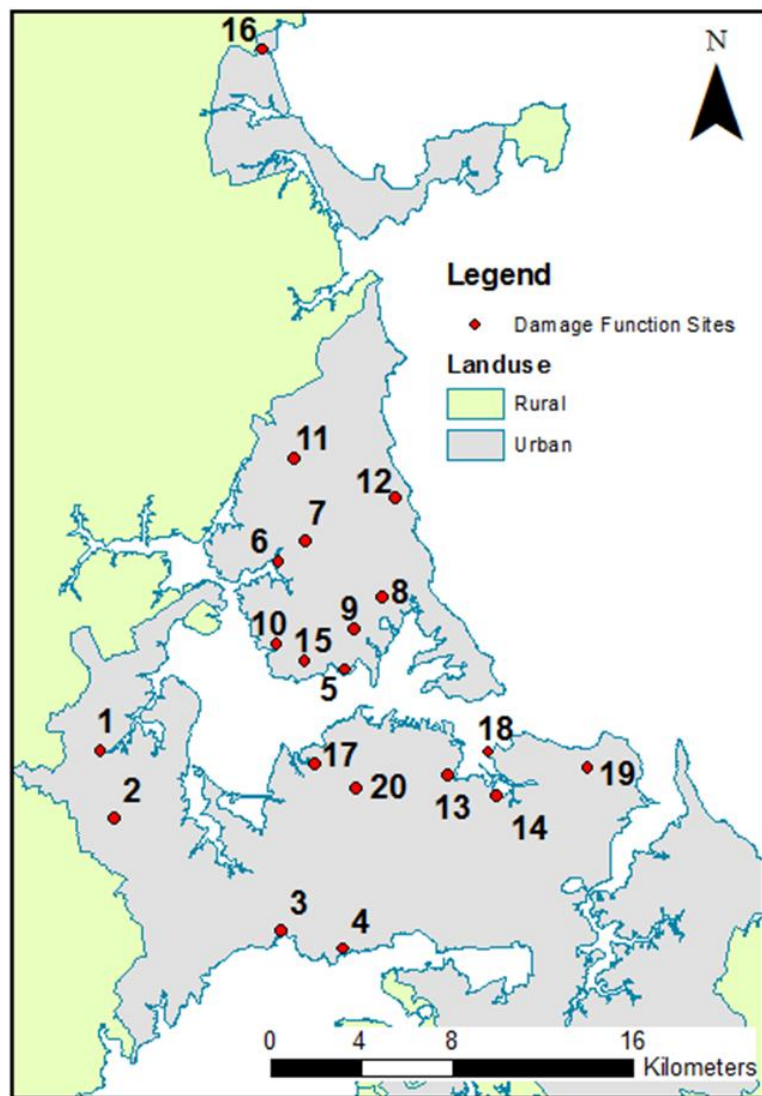


## Aim 2

- Develop a damage function for hedgehogs in urban forest fragments between hedgehog relative abundance and impact
- Damage function = a tool that can determine when management of a particular pest species should be initiated











30.21 inHg - 12°C 11/30/2017 12:13AM CAMERA7



30.12 inHg ↑ 14°C 12/07/2017 05:15AM CAMERA8



30.33 inHg ↓ 10°C 11/03/2017 01:21AM CAMERA15



30.09 inHg ↑ 7°C 11/08/2017 07:24PM CAMERA6



30.38 inHg ↑ 14°C ● 12/01/2017 04:46AM CAMERA9



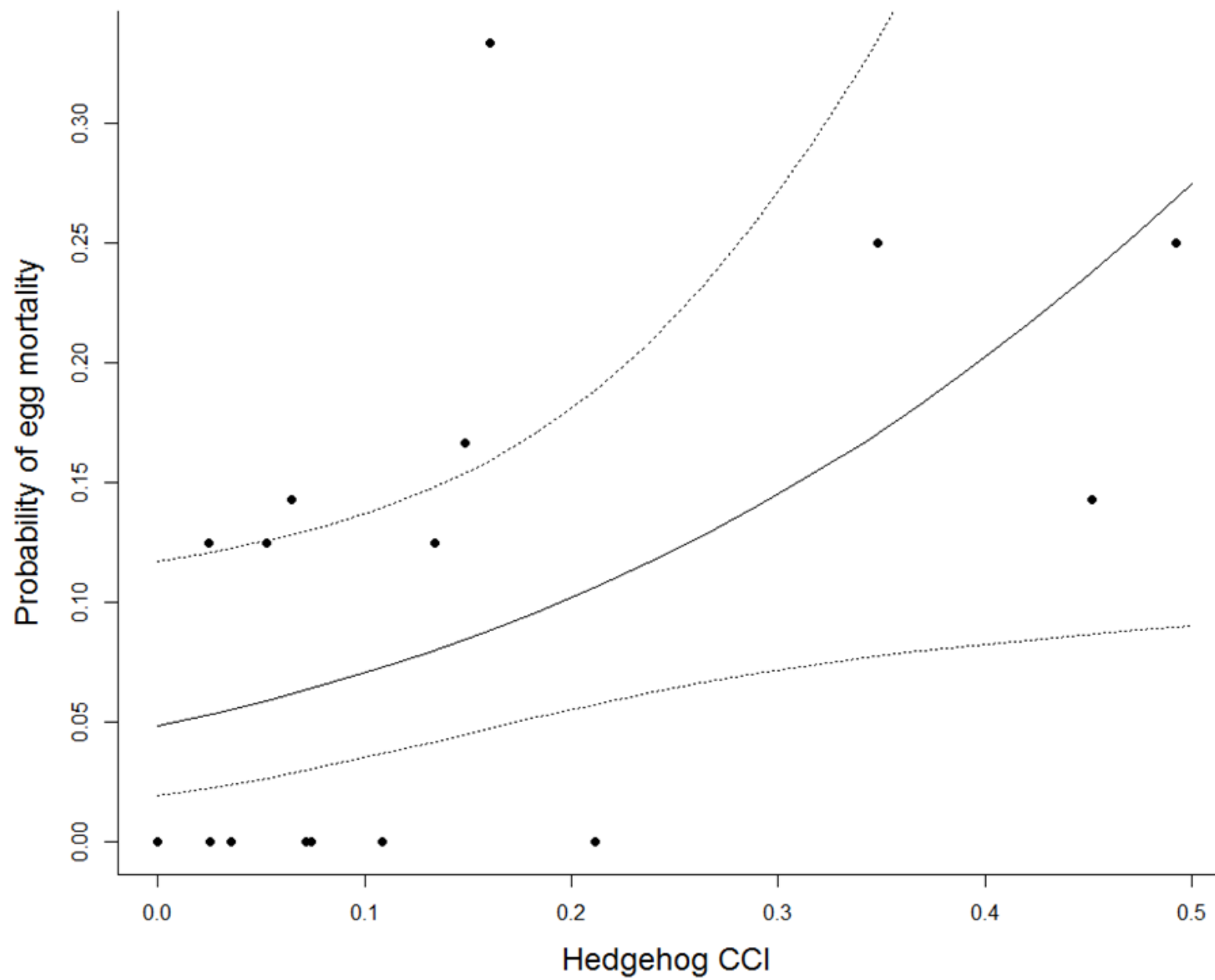
29.91 inHg - 15°C ☾ 12/20/2017 10:40PM CAMERA13



29.97 inHg ↓ 14°C ☾ 12/13/2017 02:33AM CAMERA18



30.24 inHg ↑ 8°C ☾ 11/22/2017 05:05AM CAMERA5



## Aim 3

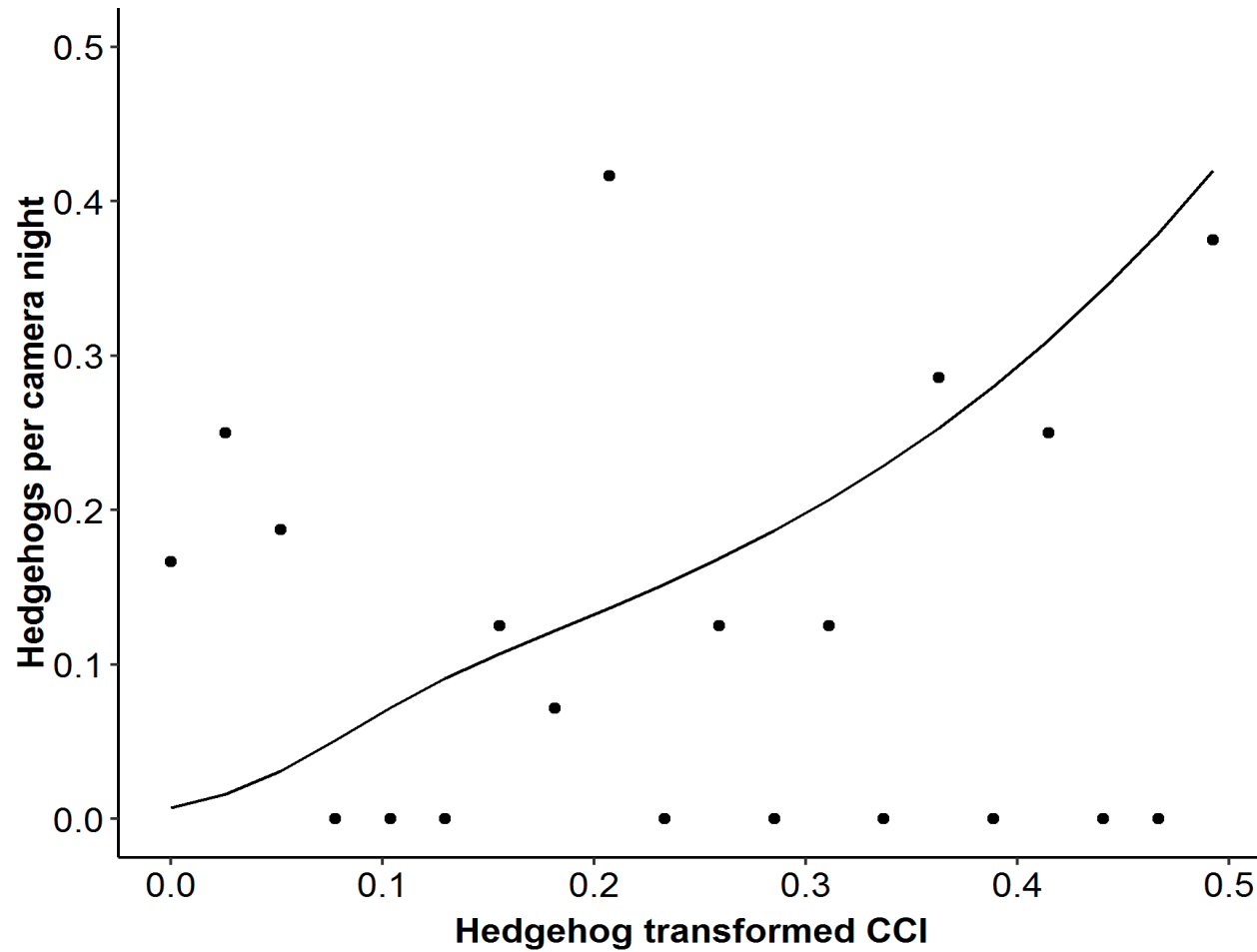
- Determine the relationship between the chew cards and camera trap index for rats and hedgehogs



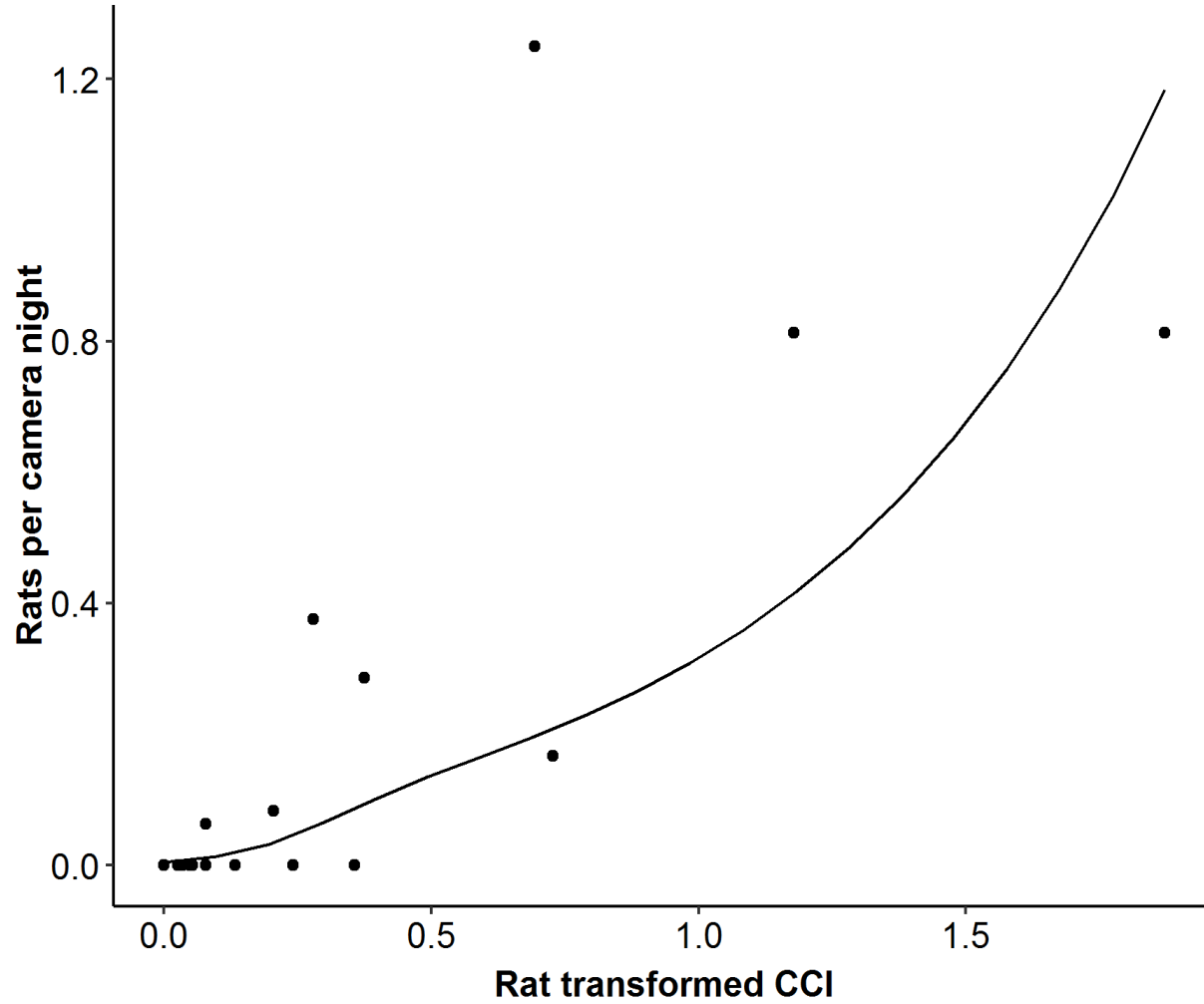
# Chew cards vs Camera traps



# Hedgehogs



# Rats



# Chew Cards vs Camera Traps

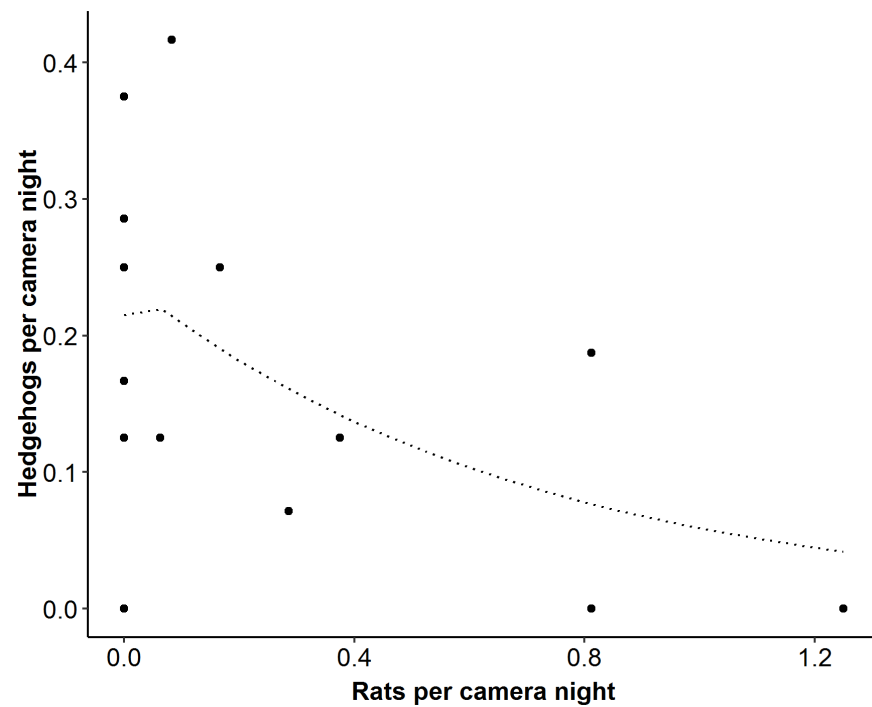
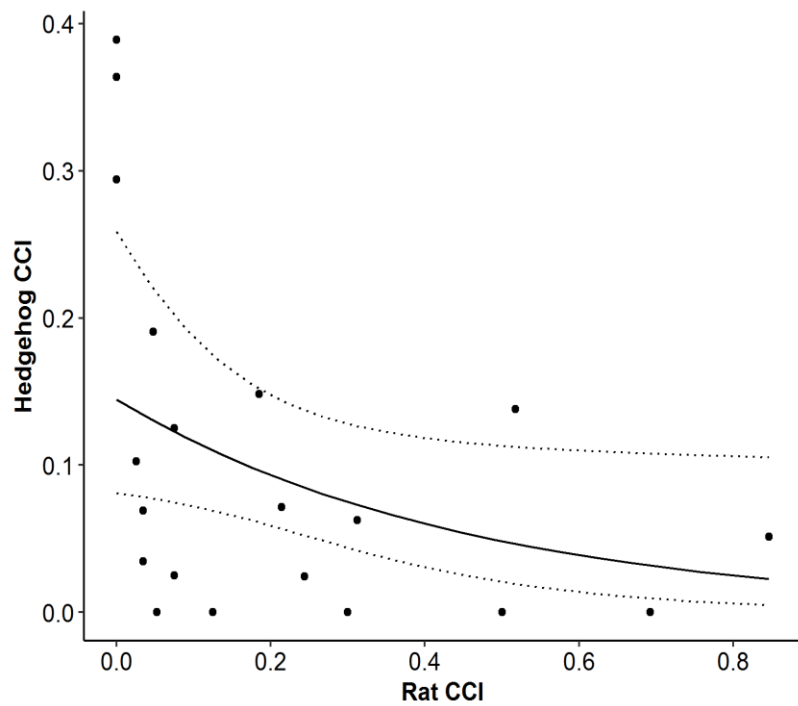
- Chew cards 20cm above ground
- Choosing between cards or cameras depends on the information that you want



## Aim 4

- Determine the relationship between the relative abundance of hedgehogs and rats

# Hedgehogs vs Rats









Thanks for listening