

Ship rat interactions with detection devices: a camera-trap study

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Landcare Research
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Biodiversity and Biosecurity



**THE UNIVERSITY
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NEW ZEALAND

Te Whare Wānanga o Tāmaki Makaurau

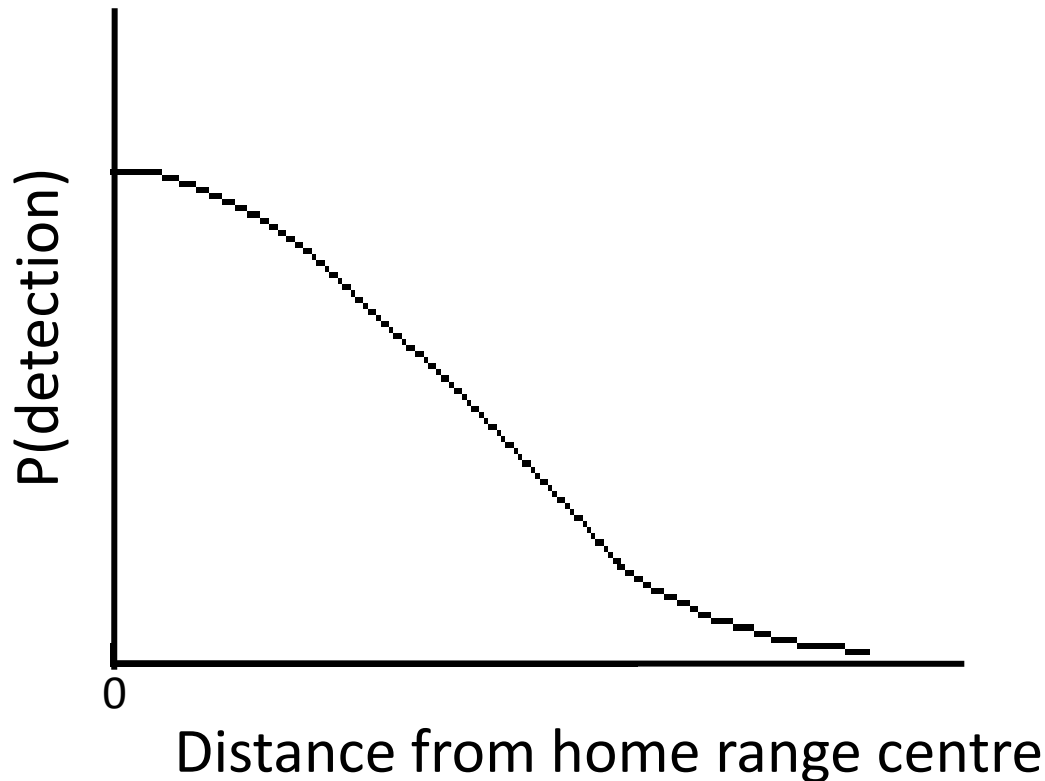
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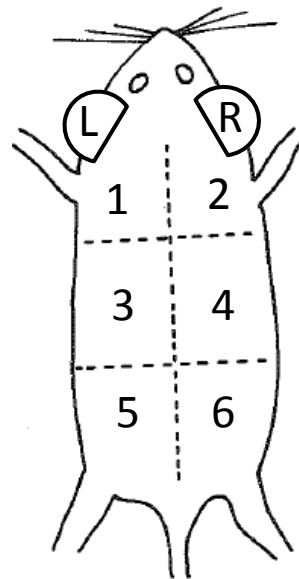
P(detection)

$g(0)$ = Probability of detection at the centre of the home range over one night
= $P(\text{encounter} | 0) \times P(\text{interaction} | \text{encounter})$

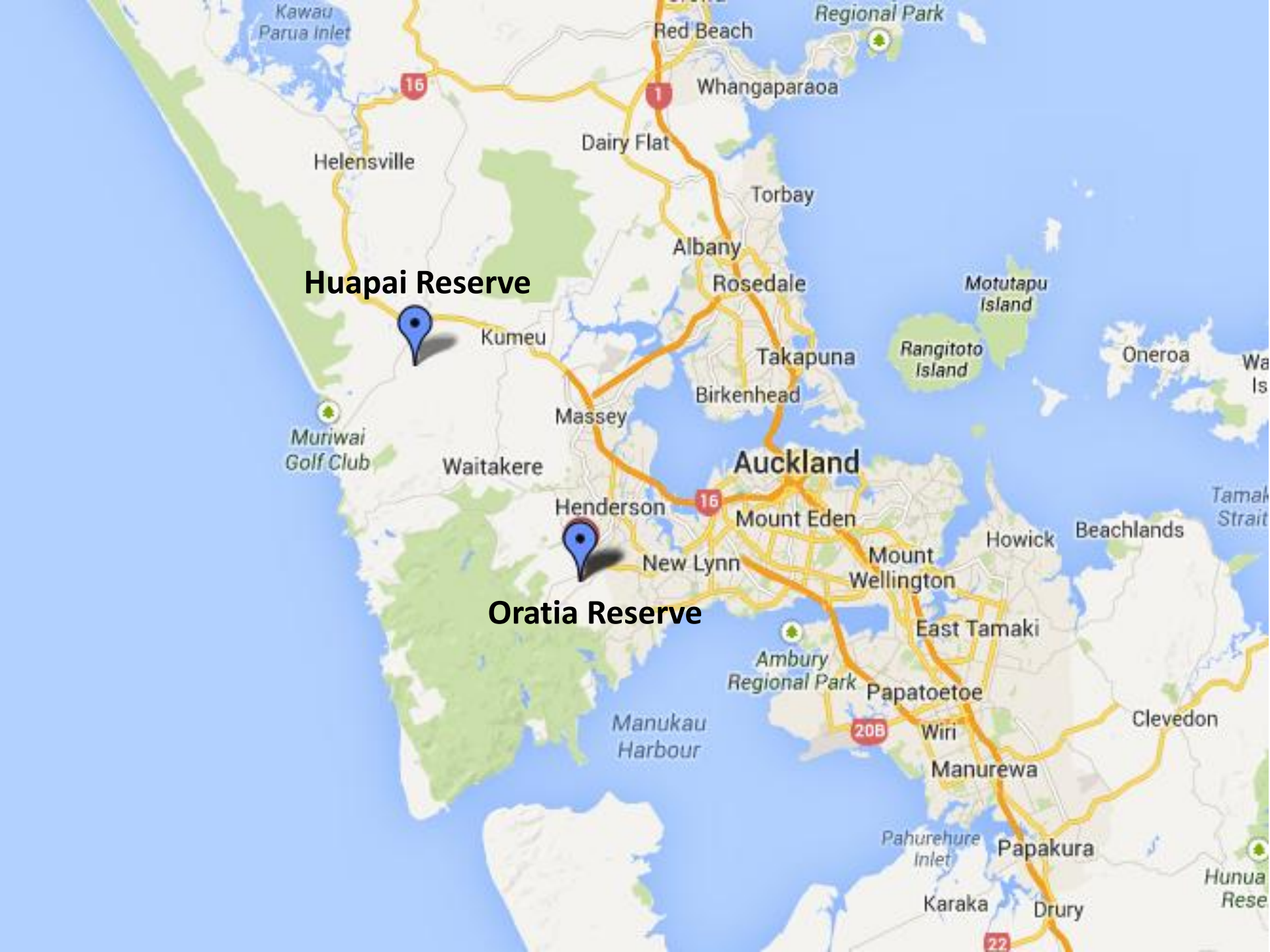


Estimating $P(\text{interaction})$

- Marked rats
- Tracking tunnels, bait stations, snap traps
- $P(\text{interaction} | \text{encounter})$ on individual level



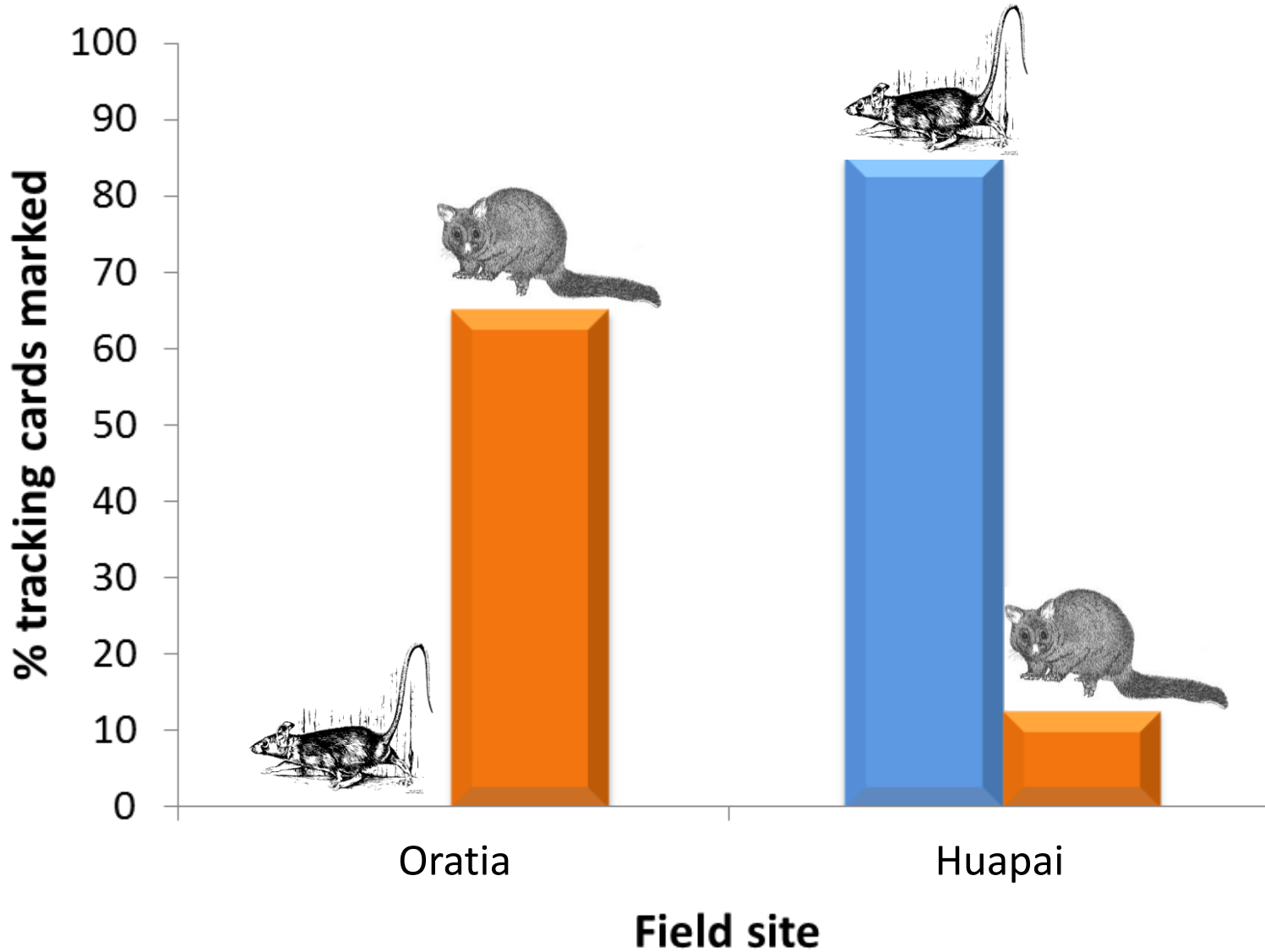
Modified from Twigg, 1978



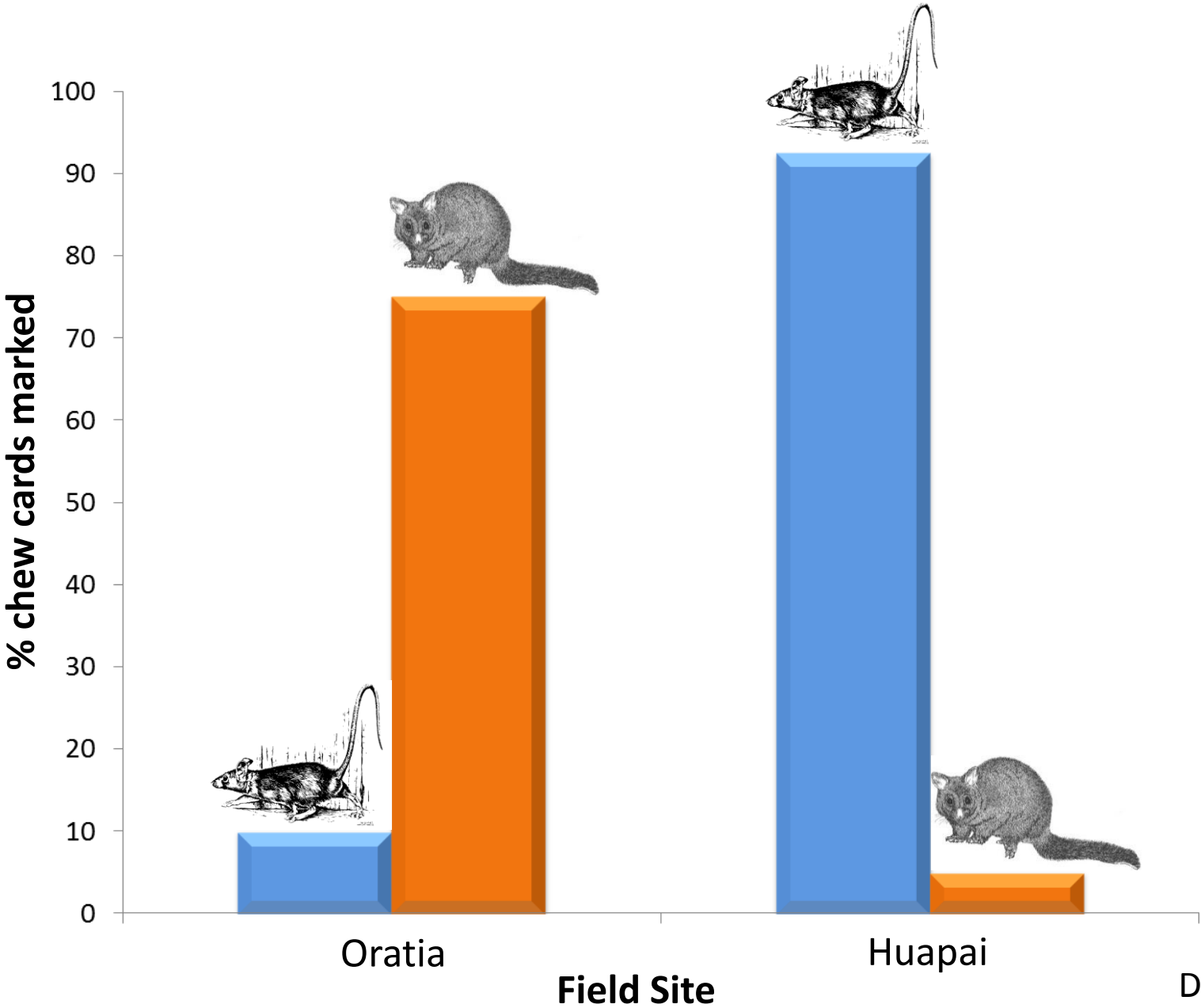
Huapai Reserve

Oratia Reserve

Tracking tunnel indices at two sites



Chew card indices at two sites



Data: J. Peace



Photo: A. Bagasra



NAME _____
DOCTOR _____
HOSP No _____
DATE _____
TIME OF _____

Yellow and blue marker

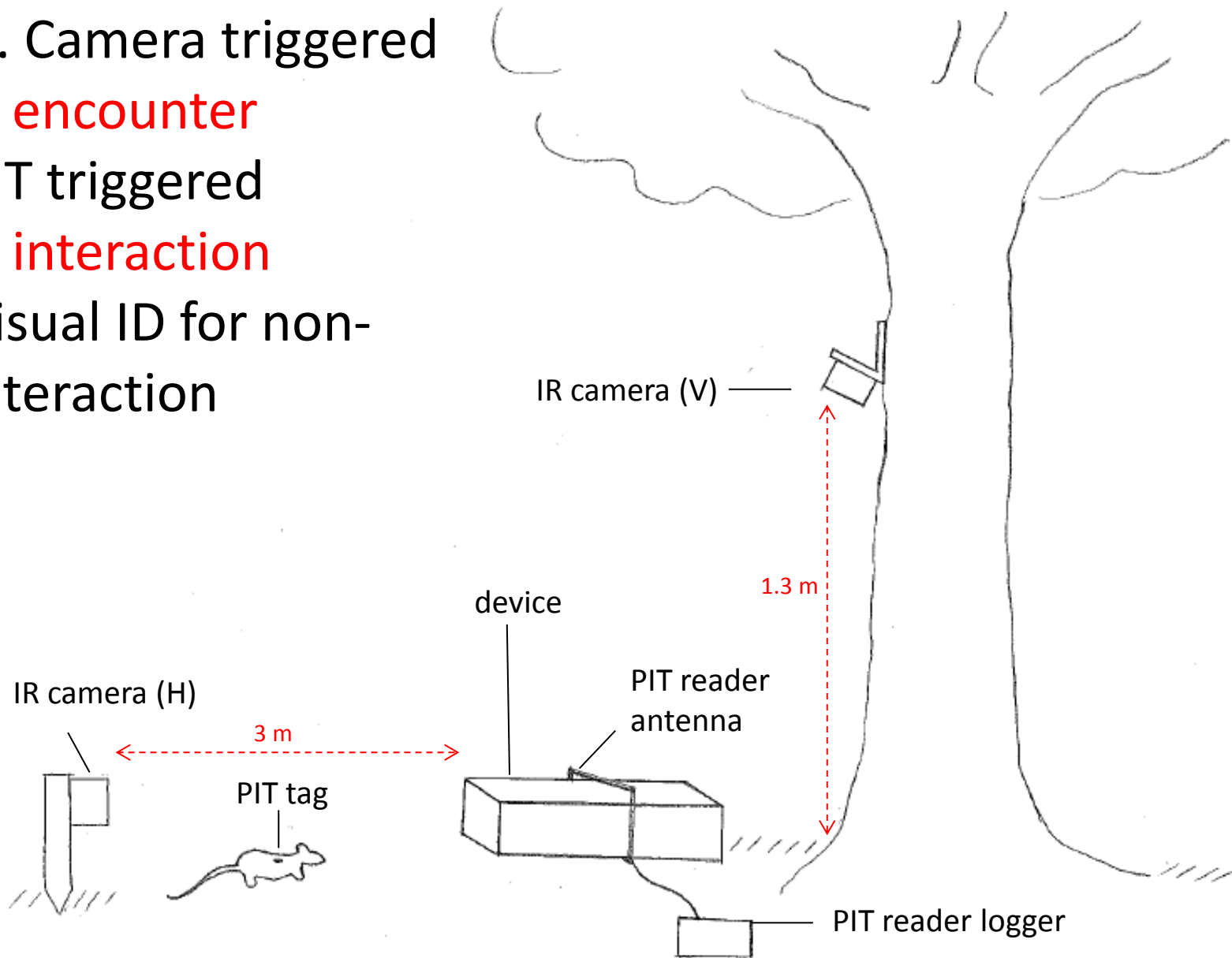
6
5
4
3
2

Photo: A. Bagasra



Photo: A. Bagasra

- H. Camera triggered = **encounter**
- PIT triggered = **interaction**
- Visual ID for non-interaction





- Camera triggered = encounter
- PIT triggered = interaction
- Visual ID for non-interaction

