

TO CATCH A CAT — DEVELOPING A SMART TRAP FOR FERAL CATS



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Conservation and Attractions

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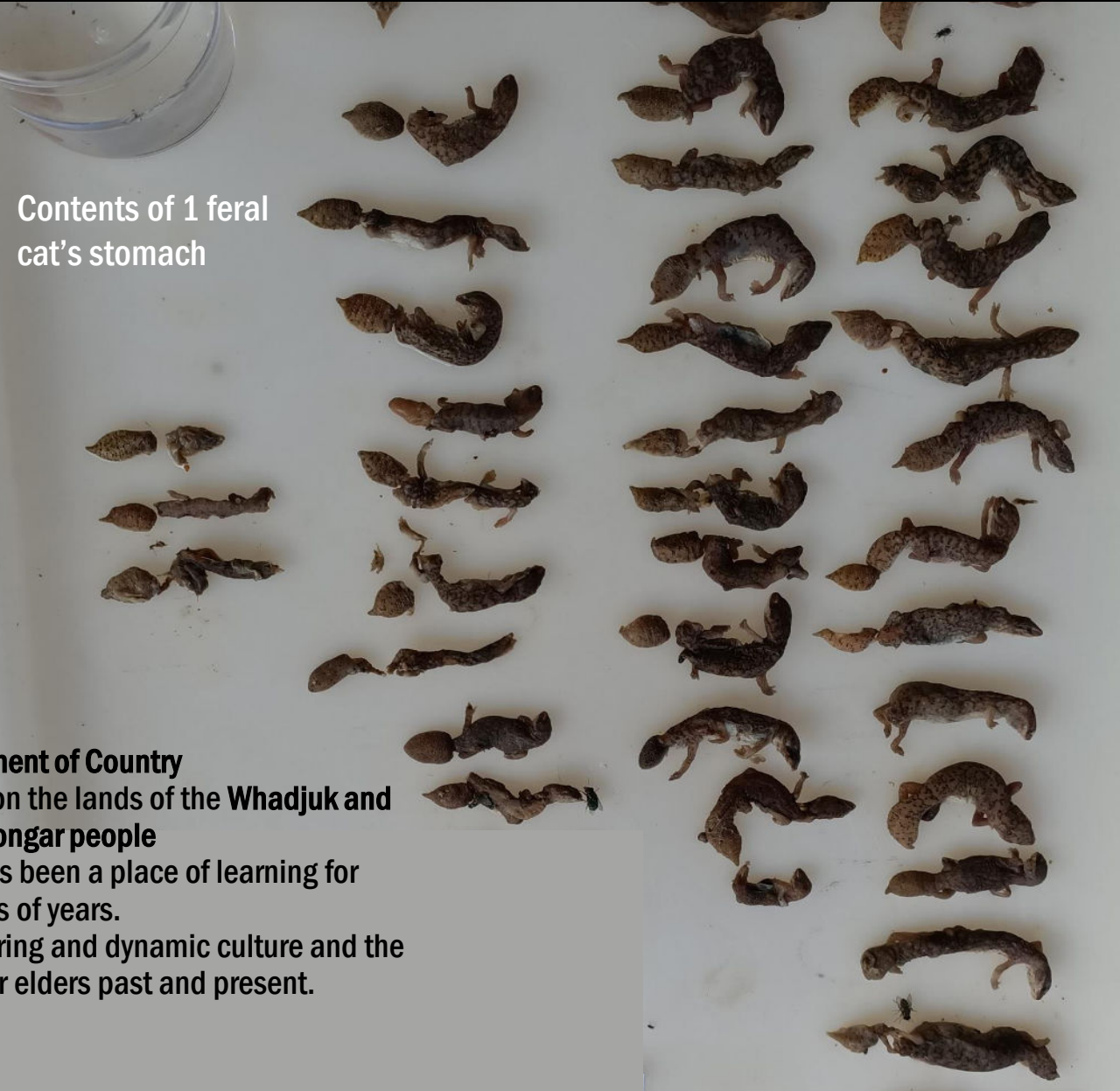
Trish Fleming, Dave Algar, Helen Blackie, Kenji Irie, Melissa Thomas

t.fleming@murdoch.edu.au

Our past – Our present – Our future?



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Contents of 1 feral
cat's stomach

Acknowledgement of Country
Murdoch University is situated on the lands of the Whadjuk and Binjareb Noongar people and this boodjar (country) has been a place of learning for thousands of years. We pay our respect to their enduring and dynamic culture and the leadership of the Noongar elders past and present.

- We need a range of cat control tools
 - To deal with different ‘personalities’
 - Lethal and non-lethal
 - Including humane tools that do not rely on toxins



- **Smart traps that**
 - On-board automatic species identification fast enough to trigger a trap mechanism
 - Can be programmed to release the animal within a fixed timeframe if access is problematic
 - Are self-resetting
 - Can communicate when activated
 - Are affordable and can therefore be deployed at scale

Smart cat trap



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- NZ has a range of commercially available traps that are capable of trapping cats too
- Using smart technology, rat, stoat and possum trap trials in New Zealand ^[1] have achieved NZ NAWAC Class A kills ^[2]
- Translating this to cats
 - 1. Be able to identify a cat
 - 2. Differentiate from Australian non-targets
 - 3. Attractive edible lure



Connovation Trapinator
\$42.00 NZD



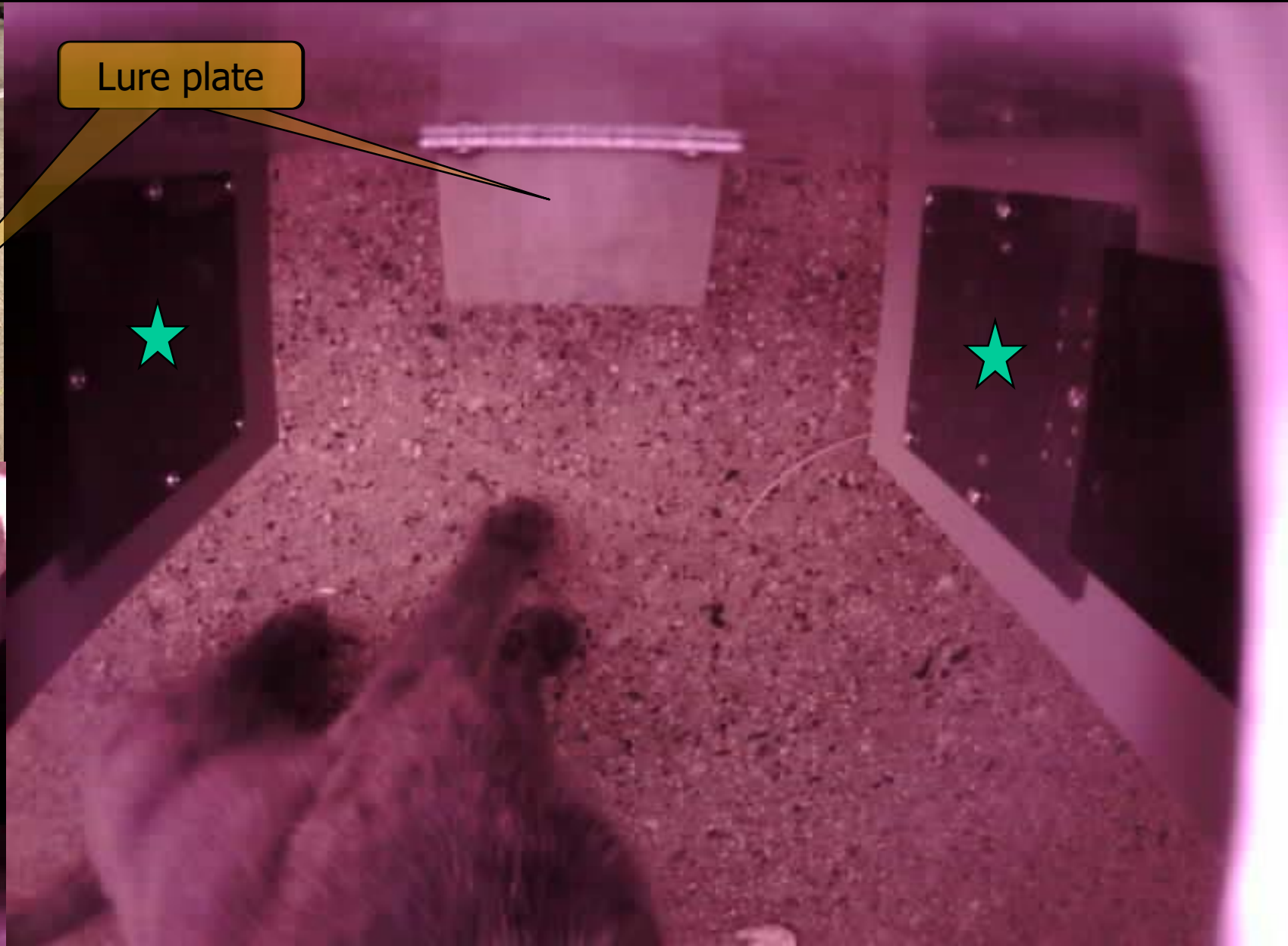
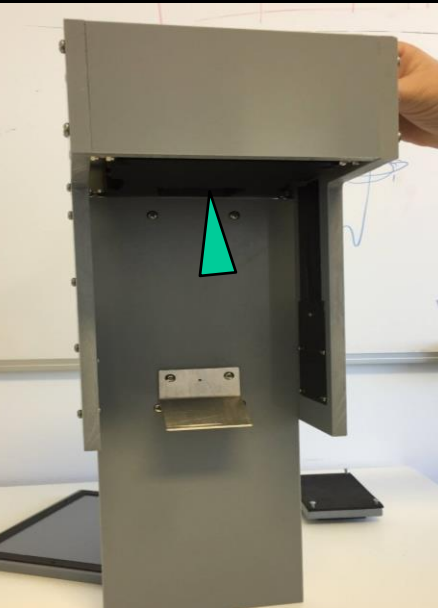
Timms Possum Trap
\$57.00 NZD

National Animal Welfare Advisory Committee (NAWAC)

[1] <https://predatorfreenz.org/research/high-tech-solutions/>

[2] Blackie et al. 2022 How and why we're using AI for pest control and surveillance. AWMS conference Napier, New Zealand

... a future smart cat trap



1. Be able to identify a cat



2. Differentiate from non-targets



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3. Attractive edible lure



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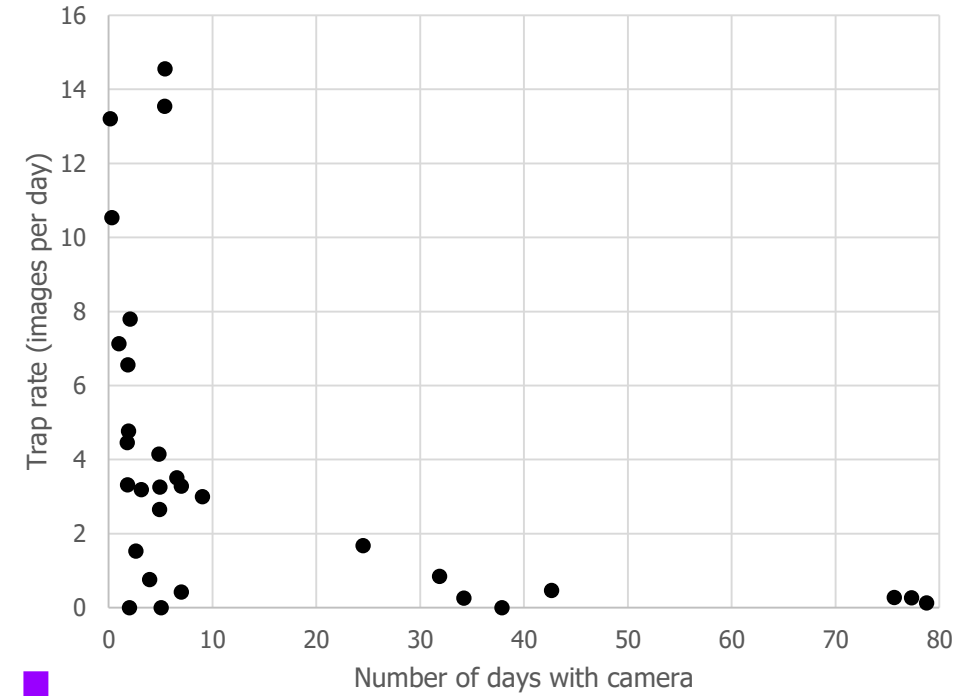
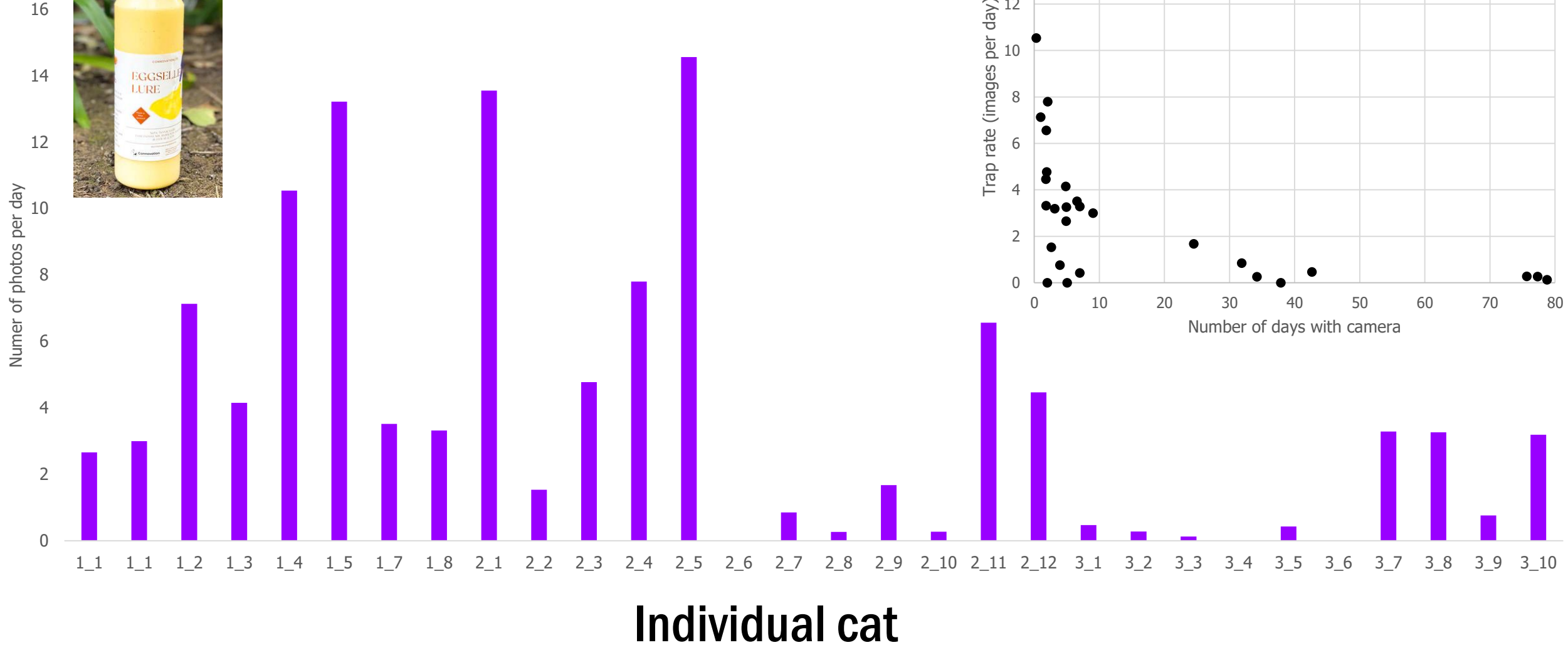
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- Many lures lose their appeal after a short period of time
 - Animals become habituated to the presence of ‘novel’ objects such as tinsel and feathers (visual lures)
 - Olfactory cues suggesting presence of another animal can fade over time
- Long-life, edible lures provide positive reinforcement

3. Attractive edible lure – PEN TRIALS



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3. Attractive edible lure – **FIELD TRIALS**

- Walyunga National Park, WA
- *Connovation Eggsellent* edible lure in *Ezylure* automatic dispensers (0.75ml twice a day)
- 30 pairs of camera traps (one ~3m from the lure and one unlured)
- 50 days
- Only a single lure dispenser showed an accumulation of lure



Australian ravens



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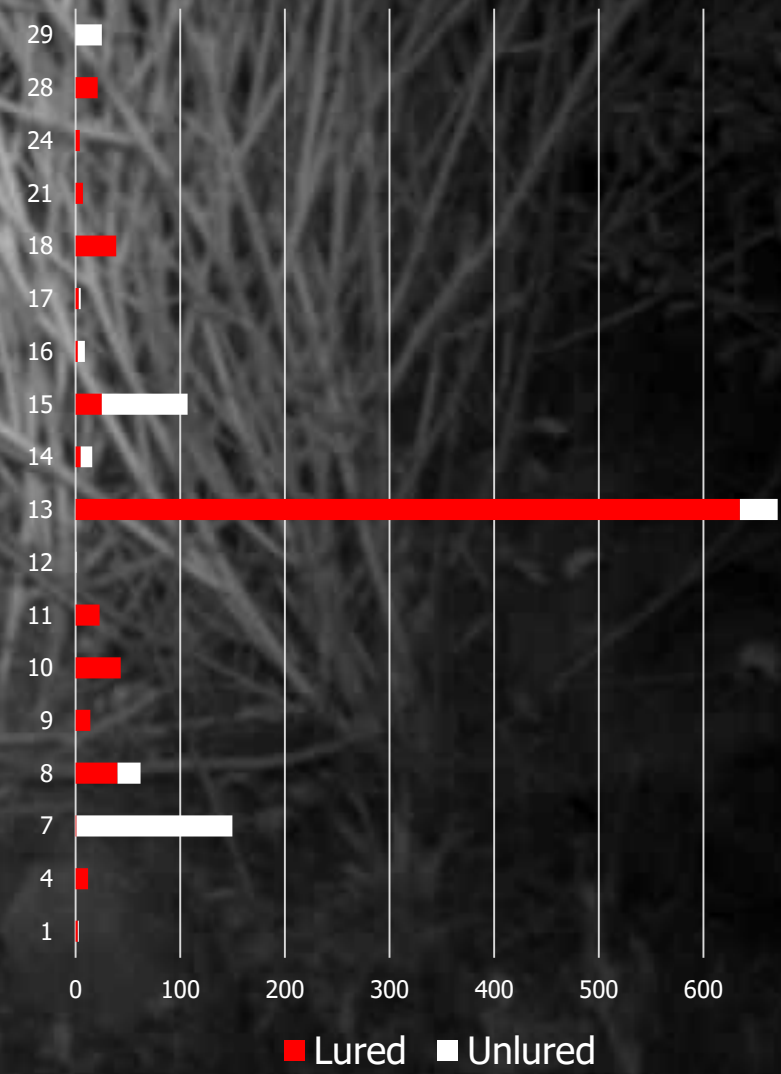


Independent records

WA had a plague of house mouse in 2022



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3. Attractive edible lure – **FIELD TRIALS**

- Southern Rangelands, WA
- *Connovation Eggsellent* edible lure in *Ezylure* automatic dispensers (0.75ml twice a day)
- 30 pairs of camera traps (one ~5m from the lure and one unlured)
- 5 months



Cats



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Smart camera that discriminates between cats and native species

Cat image collection

Non-target species image collection:

WA (collecting)

Other states

Additional data training

Field testing smart cameras

Trapping mechanism build and test



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