The WONDER WEEKLY

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Published by the Peter Underwood Centre

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RAT HUNT

Researcher exploring Tasmania's wilderness for introduced rodent

FIELD WORK: Kawinwit Kittipalawattanapol ploughs through thick bush in search of black rats, main picture, and releases a swamp rat, inset.

WE are not obsessed with rodents at *The Wonder Weekly,* well maybe just a little bit.

You may remember that in our June 20 edition we challenged you to find out more about Tasmania's five native rodents - the water rat, long-tailed mouse, New Holland mouse, broad-toothed rat and swamp rat.

We suggested that you could research the distinguishing features of each species, such as their size (average weight when fully grown), colouring, tail, eyes and ears.

We even provided you with a spreadsheet to assist this process; the idea being that it would help you to be able to tell the difference between our natives and introduced rats and mice.

This is important for a number of reasons, including that black rats have invaded native forests in Tasmania and compete with native species, particularly the swamp rat.

A research project on black rats by Kawinwit (Ink) Kittipalawattanapol, a PhD candidate in Biological Sciences, at the University of Tasmania, has since come to our attention.

Ink is investigating the factors that have led to black rats invading and thriving in the wet forests of Tasmania.

The project was sparked by a previous study - about the impact the decline of Tasmanian devils was having on other predators and prey - which showed a dominance of black rats in native habitats.

But how do you find a small and clever animal in a forest?

Ink is using a large-scale camera monitoring program, and deployed 384 cameras around the state last summer.

The cameras automatically trigger when they sense motion and heat.

Ink's preliminary findings are showing the same worrying trend.

"Black rats are currently displacing the native small mammal community, with more than 90 per cent of camera detections being black rats, and the rest being native small mammals," Ink said.

Ink is planning to trap black rats at these sites and study their genetics to work out how they have moved around over time, and which landscapes have slowed this movement.

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DIRTY RAT

Despised introduced pest or native rodent?

"Education perhaps more than anything else is a passport to a better life." - Peter Underwood AC

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PHOTOGRAPHIC EVIDENCE: A black rat is captured on camera perched on a rock in the Tasmanian bush.

Rats captured on camera

FROM PAGE 1

At the same time, Ink is doing an experiment on Bruny Island.

This involves removing black rats from an area and seeing what impact this has on native swamp rats, which appear to be in decline.

A similar study in New South Wales found that bush rats could compete quite well with black rats, after researchers controlled the number of black rats for a while.

The aim of the research is to provide new advice to environmental managers in Tasmania on how to deal with black rats.

“Hopefully we will have more understanding of the impacts of black rats in Tasmania and what they are doing to our native communities, especially small mammals,” Ink said.

But let’s get back to your challenge, because Ink is keen to help you with your rodent detective work by providing an identification guide.

We have included it on page 3 of today’s edition of *The Wonder Weekly.*

The guide includes not just native and introduced rodents, but also some precious, little native marsupials - antechinus and the white-footed dunnart.

It might surprise you to know that both are part of the family of carnivorous marsupials known as *Dasyuridae,* which includes Tasmanian devils and quolls.

The white-footed dunnart can also be found on mainland Australia, but it is listed as a “vulnerable” species.

Highly nocturnal, you don’t often see white-footed dunnarts, which makes them hard to study.

Their unusual ears, furry brown tail, and long, narrow face distinguishes them from a house mouse.

Bounce into some ball skills

HAVE you ever played basketball?

Most people playing basketball for fun tend to take a lot of shots, but of course to be able to move with the ball you need to be able to dribble.

If you have a basketball at home, or even a soccer ball or netball, along with a flat surface somewhere outside, you can learn and improve your dribbling.

The keys to bouncing the ball well are:

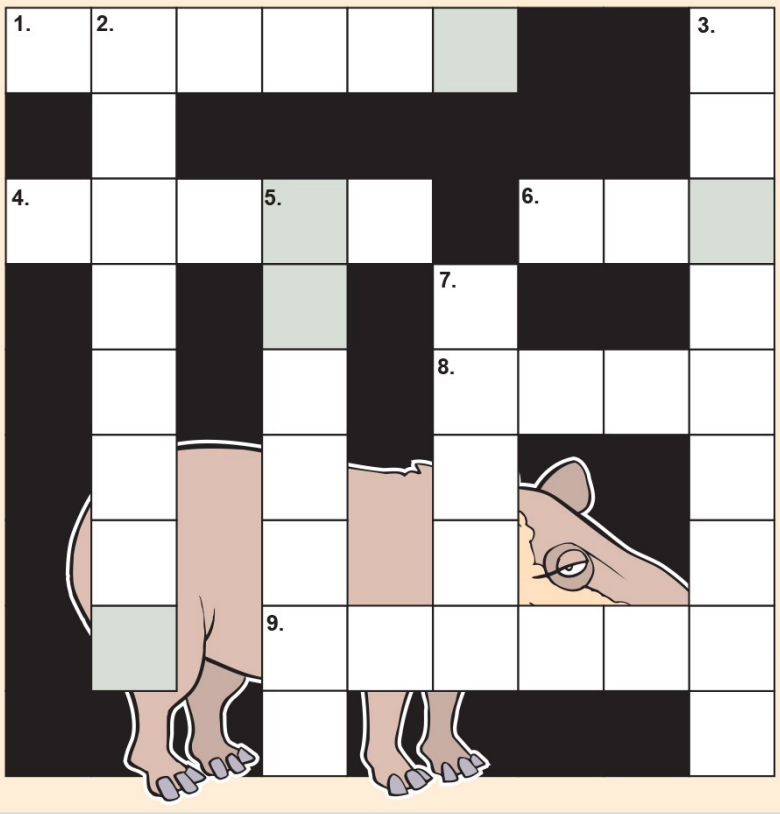
- Using your fingers (not the palm of your hand).
- Bending your knees and staying low.
- Keeping your head up so you can see where you are going.

Try using both hands to dribble, practise crossovers from your left hand to your right hand, and dribbling with one hand from left to right in front of you and at the side of your body.

You might like to try some tricky moves like dribbling between your legs or behind your back.

Children’s University members can earn hours in their passports for this challenge at the discretion of school/ hub coordinators.

South American Animals CROSSWORD



Solve the clues, then unscramble the letters in the highlighted squares to discover what kind of animal is pictured in the crossword.

ACROSS:

1. The largest cat in South America
4. The _ _ _ _ _ eagle is the most powerful eagle in the world
6. The vampire _ _ _ drinks blood
8. Large South American relative of the emu
9. _ _ _ _ _ _ monkeys have an incredibly loud call

DOWN:

2. The heaviest snake in the world
3. Giant _ _ _ _ _ _ _ _ _ use their huge front claws to open ant and termite nests
5. A fish with razor sharp teeth
7. The _ _ _ _ _ poison frog is highly toxic

SOLUTION: ACROSS: 1. Jaguar, 4. Harpy, 6. Bat, 8. Rhea, 9. Howler.
DOWN: 2. Anaconda, 3. Anteaters, 5. Piranha, 7. Arrow (Scrambled word: Tapir).

Artwork: www.johnpollyfarmer.com.au/

Key to common ground-dwelling small mammals of Tasmania

(1) The *head-body (HB) length* is roughly
- a) MOUSE size (HB <15 cm) → *(2)*
- b) RAT size (HB = 15-25cm) → *(4)*

(2) MOUSE size: The *tail* is
- a) longer than its HB length with white tip → ***long-tailed mouse***
- b) the same length as its HB length → ***house mouse***
- c) shorter than its HB length → *(3)*

(3) Has *highly pointed face* with:
- a) plumped body and no visibly pale belly → ***antechinus***
- b) slender physique and grey-white belly → ***white-footed dunnart***

(4) RAT size: The length of the *tail* is
- a) longer than HB → ***black rat***
- b) the same size as HB → ***brown rat***
- c) shorter than HB → *(5)*

(5) a) Caught in forested area with dark-brown scats → ***swamp rat***
- b) Caught in wet heathland, scrubland, or moorland with green (when fresh) or white (when dried) scats → ***broad-toothed rat***

Native rodents and the Like


Swamp rat (*Rattus lutreolus*)
Photo: ainawgsd.tumblr.com


Broad-toothed rat (Mastacomys fuscus)
Photo: David Paul


Long-tailed mouse (*Pseudomys higginsi*)
Photo: Hans and Annie Wapstra


Antechinus (*Antechinus sp.*)
Photo: Mark Bachmann


White-footed dunnart (*Sminthopsis leucopus*)
Photo: Animal Live Expectancy

Introduced rodents


Black rat (*Rattus rattus*)
Photo: Survival Ark


Brown rat (*Rattus norvegicus*)
Photo: iStock Photo


House mouse (*Mus musculus*)
Photo: Klaus Rudloff