

# Citizen Scientists wanted to solve echidna mysteries

September 4 2017, by Robyn Mills

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The Australian public is being called on to help better understand and conserve our iconic native echidna, by collecting echidna scats (poo) and taking photographs wherever echidnas or scats are spotted.

University of Adelaide researchers are launching a new [citizen science](#)

[project](#) to address important questions about echidna numbers and distribution and to obtain material for molecular analysis.

The Echidna Conservation Science Initiative or EchidnaCSI researchers have developed a dedicated mobile phone app for instant upload of photos and location, and input of details of the immediate environment and the state, size and activity of the echidna.

The researchers would also like people to use the app to log the scats, then bag and post them to the University research team for molecular analysis.

"Echidnas, and their fellow monotreme the platypus, are the oldest surviving mammals," says Professor Frank Grutzner, who has been leading research in monotremes for the past 15 years. "But surprisingly we know very little about these iconic animals that feature on our coins.

"Echidnas occupy all sorts of environments across Australia and have successfully adapted to habitats ranging from deserts, rainforests to alpine snow regions.



"Although they are hard to find and study in the wild, they pop up in people's backyards frequently and you see them when least expected. That's why we need as many people as possible – to let us know where they are and what they are doing. In addition we want people to learn how to spot echidna scats and send them to us."

Echidna scats contain echidna DNA and hormones from the cells lining the intestine, as well as DNA from food they eat.

"By analysing DNA and hormones we will be able to find out a lot more about the echidna, for example what it's eating, and the sort of environment it's living in, if it is a male or female, if they are breeding or being stressed," says Ms Tahlia Perry, PhD student in the University's School of Biological Sciences.

"In this project we combine field observation with molecular work on their hair, scats and even dead animals and that's why we called it EchidnaCSI."

Ms Perry will use the data and material collected through the EchidnaCSI project to develop molecular tools to better understand these animals and help echidna conservation.



Echidnas are found throughout Australia but the only populations that have been studied in more detail are in Tasmania, and on Kangaroo Island, where echidna numbers have dropped so that they are now listed as endangered. Environmental physiologist and University of Adelaide Visiting Research Fellow Dr Peggy Rismiller, from the Pelican Lagoon Research and Wildlife Centre on Kangaroo Island, has been working for almost 30 years on [echidna](#) biology and conservation and is a key participant in the project.

"The Kangaroo Island echidnas are under threat from habitat changes, roadkill and feral animals and these same threats exist on the mainland," Dr Rismiller says. "We have documented that numbers are declining in many parts of Australia and we need more information – that's why this project is so important."

The app, Echidna CSI, has been developed by Alan Stenhouse, PhD candidate in the School of Biological Sciences. It can be found on the [App Store](#) and on [Google Play](#).

**More information:** Further information and links to the app can be found at [grutznerlab.weebly.com/echidna-csi.html](http://grutznerlab.weebly.com/echidna-csi.html)

Provided by University of Adelaide

Citation: Citizen Scientists wanted to solve echidna mysteries (2017, September 4) retrieved 27 April 2024 from <https://phys.org/news/2017-09-citizen-scientists-echidna-mysteries.html>

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