

Search is over for a mate for Jeremy the 'lefty' snail

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Credit: University of Nottingham

A nationwide search to find a mate for a 'one in a million' rare mutant garden snail has been successful.

In October, Dr Angus Davison in The University of Nottingham's School of Life Sciences appealed to the public for their help in match-making for Jeremy, who with a left-handed, anti-clockwise spiralling shell is a mirror image of other brown garden [snails](#).

Dr Davison needs the offspring from Jeremy and another left-coiling or sinistral snail to be able to study the genetics of this rare condition, which may offer valuable insights into a common understanding of body asymmetry in other animals, including humans.

Following the appeal via the national media and a #snaillove hashtag on Twitter, Jeremy became a media sensation, with his story featuring on

prime time BBC current affairs and comedy programmes including BBC Radio Four's Today Programme, Have I Got News For You and No Such Thing as the News.

His stardom has led to him being paired with Lefty the snail from Ipswich, whose owner Jade Sanchez Melton heard about the appeal from a member of the Conchological Society of Great Britain and Ireland.

Love darts

Jade said: "Scientifically speaking, this is something which I believe has never been done and I am going to be fascinated to see whether breeding these two snails will result in more lefties or whether their offspring will feature the more common clockwise coiling shells."

Jade has had a fascination with snails from a very young age and keeps and breeds a variety of the molluscs as pets. She keeps more than 300 snails in 30 tanks and one aquarium and her collection includes native UK species and water snails, as well as a variety of South American snail and the impressive Giant African Land Snail, which grow up to 20 cm in length.

Jade discovered Lefty just under a year ago, crawling up a tree, and immediately recognised it as something special, initially suspecting that it may be an imported species of some kind.

Jeremy has been taken to Ipswich to meet Lefty and Jade will be observing them for around two weeks to see whether they mate. She will be looking for obvious signs of a pairing that would include the presence of so-called 'love darts', sharp spikes made of calcium which snails stab into each other's bodies during the process of mating, and of course, any eggs resulting from a union.

Unique traits

Jeremy may also have the possibility of a future international mate too, after a snail farmer and snail restaurant owner in Majorca, Miguel Àngel Salom, contacted Dr Davison to say he had also spotted a rare 'lefty' snail when he was cleaning shells.

Dr Angus Davison said: "Following the call that we put out to find another rare lefty snail as a partner for Jeremy, I was amazed at the response from the general public, but hardly dared hope that it would actually work."

"In the end, we found not one but two other rare lefty snails, one in Suffolk and another – Tomeu – in Spain. Both of the finders must have very keen eyes in spotting what is a very rare condition."

Jeremy the snail was originally found around a compost heap in Rayne's Park, South West London by a retired scientist from the Natural History Museum, who spotted its unique traits. Having heard about Dr Davison's interest in snail genetics, he contacted the Nottingham scientist before sending it on – by snail mail.

Earlier this year, in research published in the journal *Current Biology*, Dr Davison and colleagues at universities in Edinburgh, Germany and the US, revealed they had discovered a gene that determines whether a snail's shell twists in a clockwise or anti-clockwise direction.

The same gene also affects body asymmetry in other animals – including possibly humans - and research using these snails could offer the chance to develop our understanding of how organs are placed in the body and why this process can sometimes go wrong when some or all of the major internal organs are reversed from their normal placement.

Unfortunately for Jeremy, this reversal of major organs also meant he was unable to breed with the more common variety of brown garden snails with 'dextral' shells that coil in a right-handed or clockwise direction.

Snails are hermaphrodites meaning that if they have to they can reproduce on their own without the need for another mate. However, they only do this in the absence of another suitable mate, preferring instead to couple with another snail. The scientific data from offspring of two 'lefty' snails would also be richer and more valuable for further genetic studies.

Dr Davison added: "The citizen science has enabled us to begin on the first step toward understanding why these snails are so rare. In the same way that we understand the genetics of human eye colour, by comparing parent and offspring, we hope to understand mirror image snails, by raising offspring from the different parents.

"Ultimately, if the difference is due to an inherited condition, we would try to find the gene responsible and to see if the same gene is also present, and perhaps has the same function, in other animals, including ourselves. The contribution of the snail finders has been invaluable – we would hope that they will be authors in the scientific publication that eventually comes out of this work."

More information: Angus Davison et al. Formin Is Associated with Left-Right Asymmetry in the Pond Snail and the Frog, *Current Biology* (2016). [DOI: 10.1016/j.cub.2015.12.071](https://doi.org/10.1016/j.cub.2015.12.071)

Provided by University of Nottingham

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