

Rare, lonely 'lefty' snail seeks mate for love—and genetic study

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Jeremy the Snail (top). Credit: University of Nottingham

Scientists at The University of Nottingham hoping to study the genetics of an ultra-rare garden snail are asking the public for its help in finding the lonely mollusc a mate.

The snail's unique qualities make it a one in a million find - but also impossible for it to mate with its more common counterparts.

At first glance, the brown garden snail may look like any other but closer inspection of the snail's shell reveals exactly why this creature is so special.

While the shells of this common species spiral in a right-handed,

clockwise direction – known as dextral – the Nottingham snail is a sinistral, with a left-handed anti-clockwise spiralling shell. In essence, the 'lefty' snail is a mirror image of its other shell-dwelling friends.

Dr Angus Davison, associate professor and reader in evolutionary genetics in the University's School of Life Sciences, said: "This really is an exciting find – I have been studying [snails](#) for more than 20 years and I have never seen one of these before. We are very keen to study the snail's genetics to find out whether this is a result of a developmental glitch or whether this is a genuine inherited genetic trait."

However, for Nottingham's 'lefty' snail – dubbed Jeremy – being special comes with a unique set of problems. In addition to its mirror-image shell, the snail's genitals are also on the opposite side to the more common dextral snails – making it very difficult for the two types of snails to mate.

Dr Davison added: "Snails are hermaphrodites meaning that if they want to they can reproduce on their own without the need for another mate. However, they don't really like doing this and from our perspective, the genetic data from offspring of two lefty snails would be far richer and more valuable to us."

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 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.

Now the hunt is on for a second sinistral brown garden snail to mate with Jeremy and Dr Davison is appealing to the public to get involved by searching hedgerows, borders and plant pots for this rare variety of the common snail.

"This is something which everyone can get involved with and which you can easily do on your own doorstep. It is an example of citizen science at its best. There is a chance, because it is such a rare thing, that anyone who can find and identify another of these sinistral snails may even find themselves named as a contributor on a research paper we publish in the future as a result of this."

More information: Anyone who thinks they have found a sinistral snail can email a picture of the snail to angus.davison@nottingham.ac.uk or tweet it using the hashtag #snaillove.

Provided by University of Nottingham

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