

# Sex and the pond snail

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A third-year undergraduate student at The University of Nottingham has had her research into the sex life of the pond snail published in a peer-reviewed journal.

The study by Hayley Frend, who is a student in the School of Biology, was published today in the Royal Society Journal *Biology Letters*.

With a grant of £1,500 from the Nuffield Foundation Hayley Frend has shown that just like humans the pond snail is genetically programmed to use the left or right handed side of its brain to perform different tasks.

In the past it was naively presumed that only humans use different sides of their brains to carry out different tasks. Research has since shown that some vertebrates, such as fish, can use their brains in this way. And recently it has been shown that behavioural handedness is not just confined to vertebrates.

Hayley spent the summer in the laboratories at the Institute of Genetics studying the sex life and genetics of the pond snail, *Lymnaea stagnalis*. She has established that just like humans, snails also tend to have brains that produce 'handed' behaviour.

Her work, under the supervision of lecturer, Dr Angus Davison has shown that a handedness of the pond snail in their mating behaviour is matched by an asymmetry in the brain which is pre-programmed by its mother's genes.

The pond snail nearly always has a right handed (dextral) to its shell but sometimes it is left handed (sinistral). As dextral snails circle anticlockwise and sinistral snails circle clockwise, an unusual consequence is that two 'mirror image' snails will circle in different directions and are frequently unable to mate.

Hayley's Supervisor, Dr Angus Davison said: "It never fails to surprise me how research on a mere pond snail can contribute to an understanding of the way our own brain works. Lots of new research, not just my lab, is showing that the effective functioning of the brain, whether they are human, fish or invertebrates, requires that the separate halves of the brain dedicate themselves to separate functions. If this specialisation has evolved multiple times, then it is clearly a very important one for animals."

Hayley said: "It was an invaluable experience for me to work in the lab over the summer, but I never expected that my work would be published so rapidly. I am so excited!"

Source: University of Nottingham

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