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Fast-learning fish have memories that put their owners to shame

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IF YOU thought fish were cold, wet creatures who forget everything in three seconds flat, think again. Scientists have found they are fast learners, carry mental maps around in their heads – and can retain memories for months.

Swimming gormlessly around in their bowls or tanks, fish have long been dismissed as dunces compared with “higher” animals such as rats, cats, dogs and primates. This view is now being challenged by findings that could re-ignite the debate over the cruelty of angling. Tests on fish in aquaria at Oxford University have shown that despite their tiny brains, they possess cognitive abilities outstripping those of some small mammals.

Dr Theresa Burt de Perera made the discovery using



Theresa Burt de Perera found that fish use their memories

blind Mexican cave fish, which rely on subtle changes in pressure to detect the presence of objects around them.

In experiments, Dr Burt de Perera found that the fish did more than merely avoid bumping into objects in their tank. They built a detailed map of their surroundings, memorising the obstacles in

them within a few hours. Once stored in their brains, the fish used their “mental map” to spot changes in the obstacles around them – a feat that defeats hamsters.

In one test, involving obstacles arranged in a specific order, the fish proved capable of memorising the order and quickly spotted when Dr Burt de Perera swapped obstacles around.

According to Dr Burt de Perera, the findings – which appear in the current issue of the *Proceedings of the Royal*

months, confounding the belief that they forget everything after a few seconds.

Dr Culum Brown at the University of Edinburgh has found that Australian crimson spotted rainbowfish, which learnt to escape from a net in their tank, remembered how they did it 11 months later. This is equivalent to a human recalling a lesson learnt 40 years ago.

Dr Burt de Perera's findings have been welcomed by fish-lovers as proof that their pets can do more than blow bubbles. “They are totally misunderstood,” said Karen Youngs, the editor of *Practical Fish-keeping*. “We know from our readers that fish can recognise their owners, and some will go into a sulk if someone else tries to feed them.”

Mrs Youngs added that the research may mean that fish-owners have to make their aquaria a bit more interesting for their occupants: “We know that fish such as oscars do enjoy having a table-tennis ball to bash about.”

Mounting evidence for fish intelligence is likely to re-ignite the controversy over angling, which has focused mainly on whether fish can feel pain. “This research moves the debate along, by showing that fish aren't just swimming vegetables,” said Dawn Carr, the director of People for the Ethical Treatment of Animals. “The more we find out about fish, the less likely people are to feel comfortable about impaling them on a hook for fun.”

Anglers dismissed such views. “Their intelligence just adds to the interest – it would be awful if people were only catching fish that were stupid,” said Rodney Coldron, a spokesman for the National Federation of Anglers. “I think it might attract more people to fishing, by showing it's more of an even contest.”

‘We know that some fish will go into a sulk if someone else tries to feed them’

Society – show that fish are under-estimated.

“The public perception of them is that they are pea-brained numbskulls that can't remember things for more than a few seconds,” she told *The Sunday Telegraph*. “We're now finding that they are very capable of learning and remembering, and possess a range of cognitive skills that would surprise many people.”

Laboratory tests on other fish have found that they can store memories for many