

Otters learn by copying each other

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Smooth-coated otters. Credit: Dr. Nicole Duplaix

Otters can learn how to solve puzzles by watching and copying each other, new research shows.

Scientists created a series of puzzles baited with food, and found smooth-coated [otters](#) watched and copied each other's problem-solving techniques - with young otters more likely to copy than their parents.

But another species - Asian short-clawed otters - showed no sign of copying each other.

Many otter species are classified as threatened, vulnerable or endangered, and the researchers say their study may help improve efforts to reintroduce otters into the wild.

"Social learning has been studied in many species, but never in otters," said Dr Neeltje Boogert, of the Centre for Ecology and Conservation at the University of Exeter's Penryn Campus in Cornwall.

"Our results suggest smooth-coated otters adopt a 'copy when young' strategy.

"The offspring in our study learned how to solve these puzzles much quicker than their parents - more than six times faster.

"The order in which the young otters solved the puzzles followed the strength of their social ties. This indicates that the juveniles copied those siblings they spent most time with."

The otters, which were studied in zoos and wildlife parks in the UK, were given puzzles such as Tupperware containers with clips on the lid, screw-top lids or pull-off lids.

The puzzles were baited with treats such as peanuts or fish heads.

The most difficult task was one where a block of frozen shrimp was attached to a bamboo cane that had to be moved upwards and to the right to extract from a box - and less than half of the otters managed to solve it.

Zosia Ladds, who carried out the field research while studying at Anglia

Ruskin University, said: "It was amazing to see otters copying each other to unscrew containers and undo clips to get to their reward: sprats or shrimp provided great motivation.

"They have complex social relationships, even within families, and their group dynamics are always changing."

The researchers had expected to find social learning behaviour in both otter species, so the apparent lack of this in Asian short-clawed otters was a surprise.

Explaining why this might be, Dr Boogert said: "Asian short-clawed otters are not known to forage in groups, and their natural diet consists mainly of prey such as shellfish and crabs that do not require group-hunting strategies.

"As a result, they may have less of a tendency to turn to each other to see how to solve a [puzzle](#) such as how to extract food from a new source.

"In the wild, smooth-coated otters show coordinated group-hunting strategies such as V-shaped swimming formations to catch fish - so it makes sense that they would be naturally inclined to watch each other for foraging information."

Previous research on captive-bred endangered animals suggests that those that have gained important life skills such as anti-predator behaviour through [social learning](#) have a higher survival rate once reintroduced into the wild.

The researchers say conservation organisations working on reintroduction programmes could benefit from using social transmission as a way of training captive-bred otters to cope in the wild, particularly if they train those individuals that are most likely to be copied by their

group mates.

The paper is published in *Royal Society Open Science*.

More information: "Social learning in otters," *Royal Society Open Science* (2017). [DOI: 10.1098/rsos.170489](https://doi.org/10.1098/rsos.170489)

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