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Octopuses and humans share intelligence gene – 4th July, 2022

Level 4

Everyone knows dolphins are very smart. Scientists found that octopuses also have "remarkable" intelligence. Marine biologists said octopi have an intelligence gene similar to the one in humans. The creatures have short sequences of DNA called "jumping genes". These make up 45 per cent of the human genome. They help to create and store memories in the brain. They may give octopuses cognitive abilities like those humans have.

The research tells us how octopuses change their behaviour in response to different stimuli. This process is called "behavioural plasticity". The research could help us understand more about human intelligence. A researcher said the octopus brain has characteristics found in mammal brains. He said octopus brains could help us to know more about the "evolution of intelligence". Octopuses may be more similar to mammals than invertebrates.

Level 5

It is common knowledge that dolphins are very smart. Scientists have found that octopuses also have "remarkable" intelligence. Italian marine biologists have revealed that octopi have an intelligence gene that is similar to the one in humans. The eight-tentacled creature has short sequences of DNA called "jumping genes". These make up 45 per cent of the human genome. The researchers said they are important for creating and storing memories in the brain. The DNA may give octopuses cognitive abilities like those humans have.

The research is important because it tells us how octopuses change their behaviour in response to different stimuli. This process is called "behavioural plasticity". A biologist said the research could help us understand more about human intelligence. He said: "The brain of the octopus has similar characteristics to mammal brains....For this reason [the DNA is] a very interesting candidate to study to improve our knowledge of the evolution of intelligence." He says the brain structure of octopuses show they are more similar to mammals than marine invertebrates.

Level 6

It is common knowledge that sea creatures like dolphins have a high level of intelligence. Scientists have now discovered that octopuses also have "remarkable" intelligence. A team of Italian marine biologists have revealed that octopi have a gene that also determines the intelligence of humans. The eight-tentacled sea creature has short sequences of DNA called "jumping genes". These same genes make up 45 per cent of the human genome. The researchers said the DNA sequences are important for learning and for creating and storing memories in the brain. The scientists say the DNA may give octopuses cognitive abilities that are similar to those humans have.

The scientists say their research findings are important as they give an insight into how octopuses amend their behaviour in response to different stimuli. Scientists describe this process as "behavioural plasticity". Biologist Graziano Fiorito suggested that the research could help us understand more about intelligence in humans. He said: "The brain of the octopus is functionally analogous in many of its characteristics to that of mammals....For this reason [the DNA] represents a very interesting candidate to study to improve our knowledge on the evolution of intelligence." He says the brain structure of octopuses may mean the creatures are more similar to mammals than invertebrates and other sea life.