

Despite multicolor camouflage, cuttlefish, squid and octopus are colorblind

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Cephalopods – cuttlefish, squid and octopus – are colourblind, yet still can camouflage themselves in colourful surroundings. Credit: Dr Wensung Chung / QBI

Researchers at The University of Queensland have established that colourful coastal cephalopods are actually colourblind – but can still manage to blend beautifully with their surroundings.

Cephalopods – cuttlefish, squid and octopus – are renowned for their fast colour changes and remarkable camouflage abilities.

Professor Justin Marshall and Dr Wensung Chung from the Queensland Brain Institute also found that squid have the ability to adapt their vision depending on the colour and depth of the water they live in.

Octopus, squid and cuttlefish are colourblind, QBI researchers find

Professor Marshall said this latest research into [cephalopods](#) provided fascinating insights into how the remarkably intelligent creatures interacted with

their world.

"These engaging and charismatic animals can display complex, bright colour patterns on their skin, but our studies have reconfirmed beyond doubt that they are colourblind," Professor Marshall said.

"It is ironic then that humans still struggle to spot them in the natural habitat where their camouflage is perfectly matched with the surroundings."

Squid change patterns to match sea conditions

The research also found that squid have evolved spectral tuning, and can change their visual focus from green, in coastal waters, to blue, to match deep sea conditions.

"Everyone loves an octopus and finding out more about the way they and their cousins see their world is a treat and a privilege," Professor Marshall said.

The research, published in *Proceedings of the Royal Society B*, was funded by the Australian Research Council.

More information: Wen-Sung Chung et al. Comparative visual ecology of cephalopods from different habitats, *Proceedings of the Royal Society B: Biological Sciences* (2016). [DOI: 10.1098/rspb.2016.1346](https://doi.org/10.1098/rspb.2016.1346)

Provided by University of Queensland

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