



What Do Fish Thoughts Look Like? (Video)

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A double-transgenic larva was embedded in agarose, and a spot was presented on an LCD display placed on the right-eye side. Ca²⁺ signals were detected on the left tectum upon appearance (ON) and disappearance (OFF) of the spot. The spot was shown for the first 3 s in this 6 s movie. The video is shown at 3x real time. Credit: Current Biology, Muto et al.



With new technology, scientists in Japan have detected the thought that went through a baby zebrafish's brain when it spotted some delicious food.

"Our work is the first to show brain activities in real time in an intact animal during that animal's natural behavior," study co-author Koichi Kawakami said in a press release.

"We can make the invisible visible; that's what is most important."

The researchers read the fish's brain signals with a sensitive fluorescent probe, which they inserted into the fish's neurons using its genes.

"We developed an original method by which foreign DNA can jump into the fish genome," Kawakami told The Epoch Times in an email interview.

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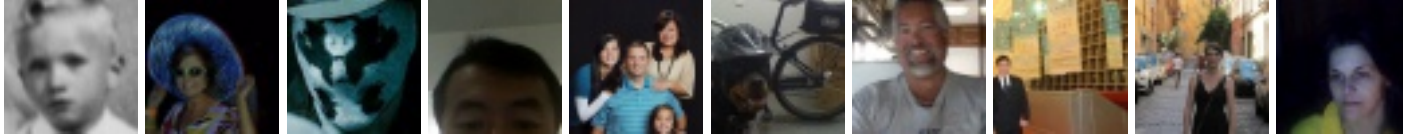
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Calcium signals are evoked by a swimming paramecium. Credit: Current Biology, Muto et al.

The researchers allowed a paramecium, a single-celled organism, to swim past the larval zebrafish. They were able to see the activity in the fish's brain when it saw the prey.

"In the future, we can interpret an animal's behavior, including learning and memory, fear, joy, or anger, based on the activity of particular combinations of neurons," Kawakami said in the release.

Fish and human brains function in much the same way, according to the scientists. Although it wouldn't be possible to use this technology on humans, it could help us understand brain circuits better, and also develop psychiatric medications.

"This has the potential to shorten the long processes for the development of new psychiatric medications," Kawakami explained in the release.

"You can screen thousands of chemicals for monitoring brain activity using the fish," he added in the email interview.

The paper was published in the journal Current Biology on Jan. 31.

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