

SOFTWARE

Following fish eyes

Nat Protoc **13**, 1539–1568 (2018)

Researchers in Germany have an eye-tracking solution for those who use zebrafish to study the links between visual input and oculomotor output. They've developed ZebEyeTrack and ZebEyeTrack Light, open-source software programs that can track the eye movements of up to six larval zebrafish at a time. The programs can analyze existing videos or, with a compatible camera, record and analyze new ones in real time. Optional external hardware, such as laser diodes and optical fibers for optogenetic manipulations, can be combined with the full version.

The authors assert that ZebEyeTrack is cheaper and more flexible than commercial tracking set-ups and quicker than processing eye movement manually. Hardware and software requirements as well as step-by-step instructions can be found in *Nature Protocols*. *EPN*

<https://doi.org/10.1038/s41684-018-0142-4>

NEUROSCIENCE

Tamed brains

PNAS **115**, 7380–7385 (2018)

Domesticated animals tend to be tamer than their wild counterparts. The rabbit was domesticated relatively recently compared to other animals, and there are considerable behavioral differences between rabbits that are accustomed to humans and those that are not. The difference could be all in their heads.

An international team of researchers previously sequenced the genomes of wild and domesticated rabbits and observed changes in areas involved in brain development. They recently explored if those genetic differences resulted in morphological differences too. They gave eight tame and eight wild rabbits from Spain postmortem MRIs. The domestic rabbits had smaller brains relative to their body size compared to wild animals, with smaller amygdala but larger medial prefrontal cortex volumes. The former responds to fear, while the latter tempers responses to negative experiences. These changes support the notion that domesticated animals have indeed lost some of their innate fear of man. *EPN*

<https://doi.org/10.1038/s41684-018-0144-2>

DRUG SCREENING

Fly screens for FA

Dis. Model Mech. **11**, dmm033811 (2018)

Friedreich's ataxia (FA) is a degenerative disorder caused by mutations to the mitochondrial protein frataxin. Muscles, including those of the heart, waste over time, and cardiomyopathy is the leading cause of death. Researchers at Universite Paris Diderot previously described a frataxin-deficient *Drosophila* line that models FA cardiomyopathies. In their latest paper, they use their fly model to screen 1280 drugs that have been approved for use in humans.

Some drugs made things worse—five were toxic—but eleven improved cardiac function in the flies; most effective was the chemotherapy drug paclitaxel. Paclitaxel stabilizes microtubules; in the heart, these cytoskeletal fibers contribute to proper cardiac function. The drug can be toxic so the authors don't recommend it for therapeutic use, but they suggest that its efficacy indicates a novel mechanism to investigate further. *EPN*

<https://doi.org/10.1038/s41684-018-0143-3>

SOCIAL BEHAVIOR

Zebrafish get oriented

Curr. Biol. **28**, 2445–2451.e3 (2018)

Zebrafish are social animals— that makes them useful for studying the mechanisms that underlie social behavior. To better understand how zebrafish socialize, researchers at the University of Oregon have developed a new visual assay. They devised two tanks separated by an electrochromic film that can either be transparent or opaque. When fish in the tanks were allowed to see each other, they noticeably changed their swimming orientation towards one another. Dosing the tanks with a dopamine receptor agonist, which disrupts social interactions in mice, impaired the behavior in the zebrafish too. Physically and genetically altering the telencephalon, a region of the fish brain involved with social behavior that is homologous to structures in mammals, yielded similar results. *EPN*

<https://doi.org/10.1038/s41684-018-0145-1>

Clark Nelson and Ellen P. Neff



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