IN BRIEF

NEUROSCIENCE

Where the brain smells fear

Meissner-Bernard, C. et al. *Curr. Biol.* **29**, 367–380 (2019)

New research from Brown University pinpoints the piriform cortex as the region of the brain responsible for olfactory fear memories. The researchers conditioned mice to associate a specific odor with a small shock, from which the animals learned to flee. They then watched the activation of c-Fos-tagged neurons in the piriform cortex, an area near the olfactory bulb suspected to be the location of olfactory memory processing. A subset of neurons in the piriform cortex was activated by the negative odor, but not by other unconditioned scents.

The researchers then turned those neurons off and on. When the neurons were inactivated during memory recall tests with the negative odor, the mice stayed put, suggesting the fearful memory was impaired. When the neurons were activated without the negative odor, the mice attempted to flee. *EPN*

https://doi.org/10.1038/s41684-019-0274-1

SLEEP

Shut eye and social bonds

Jones, C. E. et al. *Sci. Adv.* **5**, eaav5188 (2019)

Juveniles of many animals, humans included, sleep a lot. All that shut eye—in particular, REM sleep—is thought to be critical for proper neurodevelopment. Indeed, work in juvenile rodents, cats, and even *Drosophila* has linked sleep to development of the visual system, motor system, reflexes, and even social behaviors. A new paper considers sleep deprivation in a highly sociable rodent known for its lifelong pair bonds: the prairie vole.

Prairie voles allowed insufficient rest, courtesy of an orbital shaker placed under their cage, as pre-weened juveniles were impaired in their social bonding abilities as adults—males in particular showed no preference for their partners. They also lacked interest in novel objects and other voles. Aberrant neural circuits in the primary somatosensory cortex were implicated in the social deficiencies. *EPN*

https://doi.org/10.1038/s41684-019-0275-0

VIROLOGY

Aged ferrets for SFTS

Park, SJ. et al. *Nat. Microbiol.* **4**, 438–446 (2019)

A decade ago, an emerging infectious disease appeared in China. Called severe fever with thrombocytopenia syndrome (SFTS), it has since spread to South Korea and Japan and is a growing concern to the World Health Organization. SFTS is a *Phlebovirus* spread by ticks and is most severe in older individuals, but little else is yet known about its pathogenesis. In search of an animal model, a team of Korean researchers have identified aged ferrets as promising options.

They tried to infect four different mouse strains with SFTS virus, with no lasting ill effect in either young or old mice. Young ferrets also did fine, but older animals presented with a number of clinical symptoms and most ultimately succumbed to the disease. Additional comparisons of young vs. old ferrets identified three potentially contributing factors to age-related SFTS mortality: depleted platelets and white blood cells, delayed immune responses, and high viral load in the bloodstream. *EPN*

https://doi.org/10.1038/s41684-019-0276-z

GENOMICS

Papio genomes

Rogers, J. et al. *Sci. Adv.* **5**, eaau6947 (2019)

Researchers working with baboons have new genomic resources available to them with the recent publication of a reference genome assembly for the olive baboon, *Papio anubis*, along with whole-genome sequence data for the remaining *Papio* species.

Making up an order of Old World Monkeys that live throughout Africa, baboons began diverging from one another about 1.5 million years ago. The six extant lineages are morphologically and behaviorally distinct, but they retain the ability to hybridize with one another; the research team that assembled the genomes found genetic signatures of interbreeding throughout the baboons' evolutionary history. The results suggest that baboons could be interesting models for understanding the functional consequences of interspecies hybridization in primates, including that between *Homo sapiens* and other now-extinct hominins. *EPN*

https://doi.org/10.1038/s41684-019-0277-y