Clinical phenotypes in far-flung fishes

Looking beyond the conventional ‘model’ organisms can often mean venturing out of the lab and into the wild. Some locales might be familiar and relatively accessible, such as the coastal waterways of New England. Others can be a bit wilder and sometimes more treacherous to reach—the dark depths of flooded Mexican caves and the chilly extremes of the Antarctica Ocean are a far cry from the average research campus. But making such treks is often needed to find unique new subjects to study.

We’re diving this month into three fishes with naturally occurring phenotypes that, when found in humans, are associated with pathology: Antarctic icefish, with porous bones and notably absent red blood cells; Mexican cavefish and their unique means of energy metabolism and storage; and the killifish of the Northeast, exposed to numerous pollutants to seemingly little ill effect. Understanding how these fishes thrive could help advance understanding of disease, and health, in humans. Meet the fishes and some of the researchers studying their unique phenotypes in the August Technology Feature.

See page 227

Inspection data in more detail

Every year, the United State Department of Agriculture (USDA) inspects animal facilities in the US for compliance with US Animal Welfare Regulations. The number of citations for noncompliance items is trending downward. Following the release of last year’s data, a new policy watch Comment from Taylor Bennett and Matthew Bailey takes a closer look at the numbers, documenting and detailing the animal research areas that have seen drops in noncompliance items between fiscal year 2017 and fiscal year 2018.

See page 225

Published online: 22 July 2019

<https://doi.org/10.1038/s41684-019-0369-8>

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