



Where I work Germán Orizaola Pereda

Photographed by Germán
Orizaola

Thirty-five years after the explosion and meltdown at the Chernobyl Nuclear Power Plant in Ukraine, I study how amphibians in the region have changed, physically and genetically. In 2016, I joined an international research team to do this; since then, I have obtained various grants to continue the work. Chernobyl is a phenomenal place to study rapid evolution. I typically spend two to three weeks in the forests during the frogs' spring breeding season.

When I work in the 'exclusion zone', the 4,700 square kilometres around the reactor, I stay in a hostel in Chernobyl (20 kilometres from the reactor site), where we have a field laboratory inside an abandoned building. The radiation in the exclusion zone is roughly 1,000 times lower than at the time of the accident, and there are now two hostels, a bar, a couple of restaurants and a cash machine. In this image, I'm running a blood analysis on one of the tree frogs we have collected. The contamination maps on the wall behind me show that some hotspots of radiation persist.

Around 8 p.m., we listen for male tree frogs calling in the field. Wearing chest waders and head lamps, we enter the ponds to gather frogs until 1 or 2 a.m.. Frogs in the exclusion zone are darker than those outside it, thanks to higher levels of melanin, which might be an adaptation that protects them from ionizing radiation. We analyse how much radiation their bodies contain, and tend to find damage to some, often to the liver.

Once expected to become a wasteland, the Chernobyl area is now a nature reserve. New species have arrived, including European bison (*Bison bonasus*) and the wild Przewalski's horse (*Equus ferus przewalskii*). We're beginning to monitor these horses, originally from the Asian steppes: the effects on their health could be a proxy for what happens when humans return. The first 31 horses were released here in 1998, 12 years after the disaster, and it is one of the few places where they continue to live freely.

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