



## Where I work Fernando Calderón Gutiérrez

I was always interested in biology, but it wasn't until I saw a film about cave diving in secondary school – in which I watched divers glide past massive stalactites – that I realized I wanted to study cave fauna. The video didn't mention the creatures inhabiting those underwater chambers, but I knew they must be there. More than just naming them, I wanted to understand their ecology, which meant I needed to study them in their natural habitat.

Cave diving requires specialized equipment and coordinated groups. In this photo, taken in March in Belize, you can see that I always carry duplicate lights and navigation tools, and bring extra air tanks. During this sampling trip, I was using a plankton net and test tubes to collect tiny, nearly invisible animals floating in the water.

We've come to understand that caves are full of life, brimming with sponges; shrimp; sea stars and urchins; and bristled, segmented worms, all adapted for life in low-light environments. Cave species are often paler and have slower metabolisms and fewer sensory appendages, such as eyes, than those

that live in brighter conditions. Sometimes we find one species in only a single cave, whereas others seem to appear all over.

Although underwater caves might seem far removed from surface environments, research has shown that these worlds are linked in many ways. In places such as the Yucatán Peninsula in Mexico, jungles pull water directly from underground sinkholes as it flows towards the sea, where it connects with offshore coral reefs. If pollutants get underground, they can contaminate these ecosystems. I'm researching the resilience of cave ecosystems to climate change, including how heavy rain and sea-level rise might affect cave fauna by changing the proportions of fresh and salt water.

If we don't commit to conserving these mysterious places, they could be gone before we have the chance to understand them, and everything that makes them unique will disappear too.

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