Search for elusive angel shark and growing revolutionary field of bio-tracking environmental DNA

Today, said [Nicolas] Tomasi, a project manager with the Natural Marine Park of Cap Corse and Agriate, we can find rare sea life "sans avoir à plonger." Without having to dive.

This is environmental DNA, or eDNA, a revolutionary technology that is helping scientists detect the treasure trove of genetic information animals leave in their wake and understand the breadth of life on Earth like never before.

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Around the world from the Arctic to the Amazon, eDNA is rewriting the way biologists do conservation, allowing them to spot invasive pests entering ecosystems before anyone has seen them and to follow animals' migration fueled by climate change without deploying an army of people to track them.

But the most promising place for deploying eDNA may be Earth's oceans, where many species remain unknown and many threats, such as warmer waters and ocean acidification, are mounting.

In the case of France's elusive angel shark, eDNA helped scientists rediscover an animal many thought to be lost for good, and gave ocean managers key information about where it lives so that they can protect it.

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