Scientists Try Listening to Learn about Wildlife

森の中で聞こえる鳥のさえずりや虫の鳴き声には、私たちが気づいていない多くの情報が隠されているのかもしれません。近年は、AIを活用してこうした自然の音を分析し、環境の変化を調べる取り組みも進められています。新しい技術は、自然を守るためにどのような役割を果たせるのでしょうか。あなたはAIが自然保護にどのように役立つと思いますか。

1. Article

Read the following article aloud.

A team of scientists is studying the sound of the forest in Ecuador to learn how artificial intelligence (AI) could follow animal life in recovering **environments**.

When scientists want to measure new forest growth, they can study large areas of land with tools like satellites and lidar.

But understanding how fast and in what amount wildlife is returning to an area is more difficult. Sometimes it requires an expert to listen through sound recordings and pick out animal calls.

Jorg Muller is a field expert on birds at the University of Wurzburg Biocenter in Germany. He wondered if there was a different way.

Muller told the French news agency AFP: "I saw the gap that we need, particularly in the tropics, better methods to **quantify** the huge **diversity**... to improve **conservation** actions."

So, he turned to bioacoustics, which uses sound to learn more about animal life and the environments in which they live.

The tool has been used by scientists for some time. But more recently, researchers are using it with computer learning to study large amounts of data more quickly.

Muller and his team recorded wildlife sounds at sites in Ecuador's Choco area. The environments they recorded included areas that were once used for agriculture and raising livestock to old-growth forests.

They first had experts listen to the recordings and index the sounds of different animals. Then, they examine the sound quality to measure the environment.

Finally, they ran two weeks of recordings through an AI computer program trained to understand 75 different bird calls.

More recordings needed

The program was able to pick out the calls on which it was trained. However, scientists wondered if the program could correctly **identify** the number of different kinds of plants and animals in each environment.

To see if the program could do that, the team used two different controls. One was from the experts who listened to the audio recordings, and the second was based on examples from each environment, which can be used to understand biodiversity.

Since the amount of available sounds used to train is limited, the AI program could only identify one-fourth of the bird calls that experts could. But it was still able to correctly measure biodiversity levels in each environment, the study said.

The research was published recently in Nature Communications. The study said the scientists' results show that the AI program is a powerful tool to measure the recovery of animal communities in tropical forests.

The research noted that biodiversity found from recordings can be quantified in a cost-effective and complete way. And it said that it can measure environments, "… from active agriculture to recovering and old-growth forests."

There are still areas for improvement, including the lack of animal sounds on which to train AI models. And the method can only capture animals that use sound to communicate.

Agence France-Presse reported this story. Gregory Stachel adapted the story for VOA Learning English.

Source: Scientists Try Listening to Learn about Wildlife
VOA

2. Key phrases and vocabulary

First repeat after your tutor and then read aloud by yourself.

1. environment (n.) the natural conditions in which people, animals, or plants live
The desert **environment** makes it difficult for many animals to survive.

2. quantify (v.) to measure or express as an amount or number
The effects of the dry weather were **quantified** in a detailed research paper.

3. diversity (n.) the presence of many different kinds of things
New York City is well-known for its cultural **diversity**.

4. conservation (n.) the protection of nature and wildlife
The volunteer group works on the **conservation** of local wetlands.

5. identify (v.) to recognize and name someone or something
Police could not **identify** the owner of the stolen bag.

3. Questions

Read the questions aloud and answer them.

1. **What technology did the scientists combine with bioacoustics to study data more quickly? What two controls were used to test the system?**
2. **What fraction of the bird calls identified by experts could the program identify?**
3. **In what ways is the research method limited?**
4. **Do you think AI is a good tool for studying wildlife? Why or why not?**
5. **How could better information about biodiversity help conservation efforts?**