

# 气候变化与动物进化 Climate change and animal evolution

Hello. This is 6 Minute English from BBC Learning English. I'm Rob. And I'm Sam.

大家好。这里是 BBC 学习英语栏目的六分钟英语。我是罗布。我是萨姆。

When we think about famous figures in the history of science, the name of Charles Darwin often comes up.

提到历史上著名的科学家时，我们总会想起查尔斯·达尔文。

Darwin is most famous for his theory of evolution, the idea that animals change and adapt in response to their environment.

达尔文最著名的是他的进化论，即动物随着环境的变化而变化，来适应环境的观点。

In the 1830s he visited the Galapagos, a **string** of islands in the Pacific Ocean famous because of the unique animals living there.

19世纪30年代，他参观了加拉帕戈斯群岛，是太平洋上的一片群岛，因生活在那里的动物很独特而闻名。

It was while in the Galapagos, observing small birds called finches, that Darwin started forming his theory of evolution.

达尔文正是在加拉帕戈斯群岛观察雀科小鸟时，开始思索进化论的。

But today, the animals of the Galapagos face the same pressures as animals across the world because of the effects of man-made climate change.

但如今，加拉帕戈斯群岛的动物面临着与世界上其它动物相同的难题。人类导致的气候变化正在影响它们的生活。

Warming sea waters and more frequent extreme weather events are affecting animals as much as humans, so, in this programme, we'll be asking can animals evolve to deal with climate change?

海水变暖和更频繁的极端天气事件对动物的影响不比对人类的影响小。因此，在本期节目中，我们将探究：动物能否通过进化来应对气候变化？

But first I have a question for you, Sam, and it's about Charles Darwin's trip to the Galapagos.

但首先我有一个问题要问你，萨姆，关于查尔斯达尔文的加拉帕戈斯之旅。

In 1831, Darwin set sail around the world, collecting samples of flora and fauna, the plants and animals, of the places he visited.

1831年，达尔文启航环游世界，收集了所到之处的动植物样本。

But what was the name of the ship he sailed in?

问：他乘坐的那艘船叫什么名字？

a) HMS Beagle b) HMS Victory c) SS Great Britain.

a) 小猎犬号 b) 胜利号 c) 大不列颠号。

## 添加的词汇

### string

英:/strɪŋ/ 美:/strɪŋ/

n. 线，细绳；一串，一行 vt. 扎，缚；使排成一行，串起；伸展，拉直



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Hmm, maybe it was b) HMS Victory.

嗯，也许是 b) 胜利号。

Are you sure? No.

你确定吗？不确定。

OK. I'll reveal the correct answer later in the programme.

好的。稍后我将在节目中揭晓正确答案。

Now, it may have been the Galapagos finches that started Charles Darwin thinking about how animals adapt to their environment but, as naturalist, Kiyoko Gotanda explained to BBC World Service programme The Climate Question, Darwin's first impression of the small birds wasn't very good.

也许是加拉帕戈斯群岛的雀让查尔斯·达尔文开始思考动物如何适应环境，但博物学家清子五反田在BBC国际频道《气候问题》上解释说，达尔文对雀科小鸟的第一印象并不是很好。

When Darwin got to the Galapagos Islands, he actually wasn't that interested in the finches.

达尔文到达加拉帕戈斯群岛时，其实对雀类并不感兴趣。

They were kind of a drab colour and didn't have a very interesting song.

它们的颜色有点单调，歌声也不是很动听。

He sampled, though, the finches from different islands, and so when he got back to England he was looking at all the variation in beak shape and size, and body size and shape, and he was recalling how certain finches were found on certain islands but not on other islands.

但他还是对不同岛屿的雀类进行了采样。回到英国后，他观察了各种鸟喙的形状和大小及其身体的大小和形状，而且他还回忆起某些雀类是在特定岛屿上发现的，其他岛屿上却没有。

In contrast to more colourful birds like Galapagos parrots, the finches Darwin observed were drab, dull and boring-looking, with little colour.

与加拉帕戈斯鹦鹉等羽毛更鲜艳的鸟类相比，达尔文观察到的雀类颜色单调，看着枯燥呆板。

Instead, what Darwin noticed were variations in the finches' beak, the hard, pointed part of a bird's mouth.

然而，达尔文注意到的是它们不同的鸟喙，即鸟嘴硬而尖的部分。

Finches born with a beak that could help them get more food were more likely to survive and have babies.

出生时长有喙的雀鸟可以更好地捕食，它们更有可能存活下来繁衍后代。

Over time, as the birds passed on their successful genes, they adapted to fit in with their environment – what we know as evolution.

随着时间的推移，雀鸟将它们成功的基因代代相传，它们也就适应了环境。这就是我们所说的进化。

So, if animals can evolve to survive their environment, can they also evolve to cope with the impact humans are having on the climate?

那么，如果动物可以进化以适应环境，那么它们是否也能进化以应对人类对气候的影响呢？

Well, there's already some evidence to show they can.

嗯，已经有一些证据表明他们可以这样做。

Studies on birds in the Brazilian Amazon and red deer on the Isle of Rum, in Scotland, show warmer temperatures have caused animals to evolve smaller bodies.

有人研究了巴西亚马逊地区的鸟类和苏格兰朗姆岛上的马鹿，结果表明，温暖的气候已经使得动物进化得体型更小了。

It's easier to keep cool when you're small!

体型小的生物散热更方便！

American conservationist Thor Hanson records and measures anole lizards in the Caribbean.

美国环境保护主义者托尔·汉森记录并测量了加勒比海的变色龙蜥蜴。

He wants to see how the effects of man-made climate change, in this case hurricanes, is affecting the lizards.

他想看看人为导致的气候变化，是如何影响蜥蜴的，比如加勒比海的飓风天气。

Listen to what Thor found out as he speaks with presenters of BBC World Service's The Climate Question.

听听托尔在BBC国际频道《气候问题》节目上是如何向主持人讲述研究结果的。

What you can see is that large toe pads and strong front legs give some lizards a tighter grip.

我们知道，大脚趾垫和强壮的前腿能让蜥蜴抓得更紧。

When they do start to let go and their body starts flapping in the air like a flag, smaller back legs reduce the drag, and allow them to cling on and survive the hurricane.

当它们松开爪子，身体开始像旗帜一样在空中飘动时，较小的后腿会减少它承受的风力，使它们能够紧紧抓住并在飓风中活下来。

So the survivors were those lizards with those characteristics, and they passed those traits along to their offspring.

所以幸存下来的是具有这些特征的蜥蜴，他们把这些特征传递给了后代。

Thor's lizards developed stronger front legs and smaller back legs, allowing them to cling on, hold on to something tightly, when hurricanes pass through.

托尔观察到蜥蜴进化出更强壮的前腿和更小的后腿，使它们能够在飓风天气中紧紧抓住物体。

It's this trait, a genetically-determined characteristic, that allows the lizards to survive, and is passed on to their babies.

正是这个特性，这个由基因决定的特性，让蜥蜴得以存活，并把这个特性遗传给它们的幼崽。

Thor checked other areas of the Caribbean where hurricanes were frequent and found the same traits in lizards there, proof of evolution in action.

托尔调查了加勒比海其他经常发生飓风的地区，发现那里的蜥蜴也有同样的特征，这也证明了进化的作用。

But whereas we often think of evolution happening over hundreds, even thousands of years, the changes in the Caribbean lizards happened in around forty years, something that would have surprised Charles Darwin.

尽管我们经常认为动植物进化需要数百年甚至数千年的时间，但是，加勒比海蜥蜴的进化只用了大约40年的时间。查尔斯·达尔文要是还在，也会感到惊讶。

Which reminds me of your question, Rob.

这让我想起了你的问题，罗布。

Yes, I asked you for the name of the ship Darwin sailed around the world in.

是的，我问过你达尔文环球航行乘坐的那艘船的名字。

Darwin's ship was called the HMS Beagle and, appropriately enough, it was named after an animal - a beagle is a type of dog.

达尔文的船叫作小猎犬号，是以一种动物的名称命名的。小猎犬是一种狗。正好达尔文是研究动物的。

OK, let's recap the vocabulary from this programme about evolution, the way living things adapt to their environment and pass these adaptations on to their children.

好了，让我们回顾一下本期有关进化的词汇，“evolution”指生物不断适应环境，并将进化出的特征遗传给孩子。

Flora and fauna is another way of saying the plants and animals of a place.

“flora and fauna”指动植物。

Drab means dull and colourless in appearance.

“drab”形容某物外表沉闷、无色。

A bird's beak is the hard, pointed part of its mouth.

鸟的“beak”是嘴上坚硬、尖尖的部分。

To cling on means to hold on very tightly.

“cling on”意为紧紧抓住。

And finally, a trait is a genetically-determined characteristic.

最后，“trait”是由基因决定的特征。

Once again, our six minutes are up!

我们的六分钟又到了！

Join us again soon for more interesting topics and useful vocabulary here at 6 Minute English.

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Goodbye for now! Bye!

再见！再见！