Here's More Proof Earth Is in Its 6th Mass Extinction

地球正進入第六次大絕種的更多證據

Diverse animals across the globe are slipping away and dying as Earth enters its sixth mass extinction, a new study finds.

一項新的研究發現，各種遍及世界的動物都逐漸減少或者死亡因為地球進入了它第六次的大絕種。

Over the last century, species of vertebrates are dying out up to 114 times faster than they would have without human activity, said the researchers, who used the most conservative estimates to assess extinction rates. That means the number of species that went extinct in the past 100 years would have taken 11,400 years to go extinct under natural extinction rates, the researchers said.

研究者說，在上個世紀，脊椎動物的種類比起無人類活動之下以 114 倍的速度在絕跡，研究者用最保守的方式在推算著絕種率。這意指在過去 100 年絕種的生物，在自然汰換之下，要花 11,400 年才會絕種。

Much of the extinction is due to human activities that lead to pollution, habitat loss, the introduction of invasive species and increased carbon emissions that drive climate change and ocean acidification, the researchers said.

研究者說，多數的絕種源自於人類活動造成的汙染，棲息地的減少，侵入性生物的引進以及碳排放的增加使得氣候轉換和海洋酸化。

"Our activities are causing a massive loss of species that has no precedent in the history of humanity and few precedents in the history of life on Earth," said lead researcher Gerardo Ceballos, a professor of conservation ecology at the National Autonomous University of Mexico and a visiting professor at Stanford University.

主導的研究者 Gerardo Ceballos，一個在墨西哥國際自治大學保育生態學教授以及史丹福大學客座教授說，我們的行為造成了大量生物的減少，這在人類史上史無前例，而在地球上的生物史也十分罕見。

Ceballos said that, ever since he was a child, he struggled to understand why certain animals went extinct. In the new study, he and his colleagues focused on the extinction rates of vertebrates, which include mammals, birds, reptiles, amphibians and fishes.

Scientists found that species are dying off more than 100 times faster than they would without human activity.
Credit: By Karl Tate, Infographics Artist

Ceballos 說，自從他還是一個小孩，他就努力了解為什麼動物會絕種。在新的研究上，他和他的同學專注在脊椎動物的絕種率，包含了哺乳動物、鳥、爬蟲類、兩棲動物和魚。

First, they needed to establish how many species go extinct naturally over time. They used data from a 2011 study in the journal Natureshowing that typically, the world has two extinctions per 10,000 vertebrate species every 100 years. That study based its estimate on fossil and historical records.

首先，他們需要建立在過去多少種類自然淘汰。他們從 2011 年 Nature 期刊的研究取得數據，基本上，世界上每 100 年就有兩個各 10,000 種脊椎動物的絕種。這項研究是根據化石和歷史紀錄的推估。

Moreover, that background extinction rate, the researchers found, was higher than that found in other studies, which tend to report half that rate, the researchers said.

再者，研究者發現，這項絕種率的背景比其它研究發現的要高，一般都只報告了一半的比例，研究者說。

Then, Ceballos and his colleagues calculated the modern extinction rate. They used data from the International Union for Conservation of Nature (IUCN), an international organization that tracks threatened and endangered species. The 2014 IUCN Red List gave them the number of extinct and possibly extinct vertebrate species since 1500.

然後，Ceballos 和他的同學計算了現代絕種率。他們採用的數據來自國際自然保護聯盟(IUCN)- 一個追蹤具威脅性以及快要絕種生物的國際組織。2014 年 IUCN 的紅色名單上，給他們絕種及可能絕種的脊椎性動物共 1500 種。

These lists allowed them to calculate two extinction rates: a highly conservative rate based solely on extinct vertebrates, and a conservative rate based on both extinct and possibly extinct vertebrates, the researchers said.

這些名單讓他們可以計算兩個絕種率: 一個只根據脊椎動物絕種的高保守估計，和一個根據絕種和可能絕種脊椎動物兩種可能性的保守估計，研究者說。

According to the natural background rate, just nine vertebrate species should have gone extinct since 1900, the researchers found. But, using the conservative, modern rate, 468 more vertebrates have gone extinct during that period, including 69 mammal species, 80 bird species, 24 reptile species, 146 amphibian species and 158 fish species, they said.

根據自然背景率，只有九種脊椎動物自 1900 開始應該絕種，研究者發現。但是，根據保守者，現代估計，還有 468 種脊椎動物在同時期也絕種，包括 69 種哺乳動物，80 種鳥類，24 種爬蟲類和 146 種兩棲動物以及 158 種魚類，他們說。

Each of these lost species played a role in its ecosystem, whether it was at the top or bottom of the food chain.

每種消失的生物在他們的生態系統都扮演著一個角色，不管是在食物鏈的上層或底層

"Every time we lose a species, we're eroding the possibilities of Earth to provide us with environmental services," Ceballos told Live Science.

Ceballos 這麼告訴美國生命科學網: 每一次我們失去了一種生物，我們都是在侵蝕地球可能提供給我們的環境幫助。

Researchers typically label an event a mass extinction when more than 5 percent of Earth's species goes extinct in a short period of time, geologically speaking. Based on the fossil record, researchers know about five mass extinctions, the last of which happened 65 million years ago, when an asteroid wiped out the nonavian dinosaurs.

就地質角度上來說，研究者特別將每次地球在短期內生物絕種高於 5%的時候標示為大絕種事件。根據化石紀錄，研究者知道五次大絕種，最近一次發生在 6,500 百萬年之前，當一顆小行星毀滅了非鳥類恐龍。

"[The study] shows without any significant doubt that we are now entering the sixth great mass extinction event," study researcher Paul Ehrlich, a professor of population studies in biology at Stanford University, said in a statement.

"[The study]指出毫無疑問的，我們正進入第六次大絕種事件，研究生 Paul Ehrlich- 一位在史丹福大學生物人口研究的學生，在一段聲明中指出。

Bye-bye, birdie

At this rate, a huge amount of biodiversity will be lost in as little as two to three human lifetimes, Ceballos said. And it can take millions of years for life to recover and repopulate the Earth, he said.

再見了，鳥兒們

以這個比例，大量的多樣生命會以短至兩到三個人類生命週期的速度消失，Ceballos 說。而這至少要耗費上百萬年讓存在的生物恢復並重新棲息於地球，他說。

Species make up distinct populations that can spread over a continent. But some vertebrate populations have so few individuals left that they cannot efficiently play their role in the ecosystem, Ceballos said.

Ceballos 說“生物替補絕種的總數可以遍佈一大洲。但有些脊椎動物總數僅有極少數遺留，無法足以扮演他們在生態體系的角色”。

The snow leopard (*Panthera uncial*) is endangered; its numbers have declined by at least 20 percent over the past 16 years, mainly due to poaching and loss of habitat and prey, according to the IUCN.
Credit: Dennis W. Donohue

雪豹(*Panthera uncial*)即將絕種；他的總數在過去 16 年至少減少了 20%，主要因為獵捕，棲息地的減少和被捕食，根據 IUCN
歸功於: Dennis W. Donohue

For instance, elephant populations are now far and few between. "The same [goes for] lions, cheetah, rhinos, jaguars — you name it," Ceballos said.

例如，大象的總數現在也寥寥無幾了。還有獅子、印度豹、犀牛和美洲豹，你們自己舉例吧，Ceballos 說。

"Basically, focusing on a species is good because those are the units of evolution and ecosystem function, but populations are in even worse shape than species," he added.

基本上，針對單一種類來說是好的，因為他們是進化和生態體系作用的主體，但總數相對上相對就糟多了。他補充。

However, there is still time to save wildlife by working with conservationists and creating animal-friendly public policy, he said.

"Avoiding a true sixth mass extinction will require rapid, greatly intensified efforts to conserve already threatened species, and to alleviate pressures on their populations — notably, habitat loss, over-exploitation for economic gain and climate change," the researchers wrote in the study, published online today (June 19) in the journal Science Advances.

然而，和天然資源保護論者一起來挽救野生生物並且創造一個對動物友善的公共政策永遠不嫌晚，他說。

避免第六次絕種的事實需要快速、非常努力來保護已經面臨絕種的生物，還要減緩他們總數上所面臨的壓力- 特別是棲息地的減少，獲取利益的過度開發以及氣候改變，研究者在研究上寫到，於今日發行(6/19)，在 Science Advances 期刊上

The study supports other findings on Earth's high extinction rate, said Clinton Jenkins, a visiting professor at the Institute of Ecological Research in Brazil, who was not involved with the study.

這項研究支持了其他地球高絕種率結果，Clinton Jenkins，一位並沒有參與這項研究，在巴塞爾生態研究學院擔任客座教授說。

In 2014, Jenkins and his colleagues published a study in the journal Science that came to the same broad conclusions detailed in the new study, but in last year's study, they also included flowering and cone plants. That study found that current extinction rates are about 1,000 times higher than they would be without human activities.

在 2014 年，Jenkins 和他的同學發表在 Science 期刊發表了一項研究，在這項新研究裡詳述了同樣的結論，但在去年的研究，他們也加入了開花和松果植物。那份研究發現目前的絕種率比起無人類活動下高出了大概 1,000 倍

"This latest study is further evidence of a human-induced mass extinction now underway," Jenkins told Live Science. "Much like the situation with human-caused climate change, years of research have built an enormous scientific case that humanity is driving a mass extinction. What the world's many species now need are actions to reverse the problem."

最近一份研究是人類正引起大絕種的進一步證據，Jenkins 如此告訴美國生命科學網。就像人類對氣候改變造成的影響一樣，多年的研究已建立一龐大的科學案例，人類正導向一個大絕種。現在世界多數生物需要的就是反轉這個問題的行動。