

## Acceptance speech

20 June 2024

### Gerardo Ceballos, awardee in the Ecology and Conservation Biology category (16th edition)

It is a great privilege and honor for me to be here with you at this event which celebrates and exalts scientific research.

I wish to express my deepest thanks to the BBVA Foundation for bestowing this prestigious distinction on myself and my esteemed friend and colleague Dr. Rodolfo Dirzo. For us, the BBVA Foundation Frontiers of Knowledge Award in Ecology and Conservation Biology represents a huge encouragement as well as a great responsibility to go on producing scientific research of excellence. The award also has a special meaning for us, as the first scientists in Ibero-America to be recognized in the ecology and conservation biology category.

It is hard to find words to express how deeply indebted I am to my parents, who encouraged my interest in science and supported me in my career. My wife, my children and my grandson, Guadalupe, Pablo, Regina and Gonzalo, have been a constant source of love and inspiration, strength and solidity. They have always been by my side, through the calm and the storm. To all of them, my eternal gratitude.

My interest in scientific research and nature conservation began at an early age. I vividly remember a novel titled *El Ultimo Chorlito*, which I came across by chance. The novel closed with this saddest of sentences, which marked my childhood and shaped my adult life: *"But the great flocks no longer come, and only the legends remain. The last of a dying race, they fly alone."*

Saving the greatest possible number of wild species from extinction is the goal of my professional life. Understanding the scale, the causes and the consequences of biodiversity loss, while at the same time ensuring the conservation of species and ecosystems, is the task to which I have devoted my scientific endeavors for over three decades, and to which I will devote the rest of my days. Many nights it has seemed like a heavy burden, but it has also given me some of the happiest moments of my life, like recently contributing to the creation of more than 3.5 million hectares of natural protected areas in Mexico.

Earth sustains life, the greatest secret in the immense, cold and dark universe, which contains more stars than there are grains of sand in the sea. Millions of wild animals and plants have accompanied us throughout humanity's

fascinating evolution. The flourishing of cultures, science, the humanities and technology has been inextricably tied in with the wondrous works of nature.

And yet, life is in danger. Gone are the days of calm, the nights of peace. Countless species have become extinct due to human activity, and millions more are at risk of extinction, due to environmental problems like human population growth, climate change, habitat destruction and pollution. This award recognizes our scientific contribution, which has helped change the paradigm whereby the current extinction wave is a natural phenomenon, a part of the evolutionary process. With Rodolfo and other colleagues, especially Paul R. Ehrlich of Stanford University, we have managed to demonstrate that we are already into the sixth mass extinction, since current species extinction rates are up to thousands of times faster than those of the last few million years. For example, without human impact, the vertebrates lost in the last century would have gone extinct in 10,000 years. We have also shown that to confine our attention to the extinction of species alone is to underestimate the problem. Today's extinction crisis is a crisis of both population and species loss, which makes the situation worse. In the course of our work, we have coined certain terms to reflect the severity of this worldwide crisis, like *biological annihilation*, *defaunation* and the *mutilation of the tree of life*.

Negative environmental impacts have spiraled in the past century, due to the explosive growth of the human population. This environmental crisis could have catastrophic consequences for biodiversity and for humankind. Wild species are vital to the upkeep of environmental services, like the combination of gases in the atmosphere or the quality of drinking water; all the enormous benefits we get from the proper functioning of nature. With the disappearance of species we are eroding the ability to sustain life.

But species extinction is not predetermined. It is clear that our future will largely depend on the strategies we adopt to address the challenge of biodiversity conservation and economic and social development. I have faith and hope that thanks to scientific knowledge and science-based efforts to conserve nature, we can mitigate the current extinction crisis and enjoy a better future.

Thank you