Ken Lacovara: Dinosaurs offer clues for meeting today's eco-challenges

It was 2005 and American paleontologist Ken Lacovara was walking through the desert in Patagonia, Argentina. He and his field team were searching for fossils when he happened to see something jutting out of the ground. After digging and more digging at that spot, he had a major find: a huge thigh bone that turned out to be more than 6 feet in length.

He realized two things, immediately.

First, the bone was from a giant dinosaur. And second, he "knew that another giant dinosaur hadn't been found in South America within about 35 million years of geological time. A species doesn't last for that long. It had to be a new species. I didn't know much about it at that point. But I knew it was a new species of a really, really giant dinosaur."

Dr. Lacovara spoke about his adventures in South America and elsewhere, and how an understanding of the time when dinosaurs roamed the earth has significant value today, during a recent episode of the "Life's Tough, Explorers are Tougher!" podcast, hosted by Richard Wiese, president of the Explorers Club. The podcast is now available for download on major podcast platforms.

Back to his work in Patagonia, the paleontologist and his team continued to dig around the area where they found the protruding thigh bone but came up empty. The bone was an isolated find. However, the discovery had spurred Dr. Lacovara to return to the Patagonia desert for the beginning of a new field season the following year.

Another find

Sure enough, on the first day out, the paleontologist found another femur, 6-plus-feet-long. It was not an isolated find. The team unearthed 145 other bones of a giant plant-eating dinosaur. After three additional seasons in the field in

Patagonia, Dr. Lacovara and his team identified the bones as remnants of a new species, which would eventually become known as *Dreadnoughtus schrani*. It was a dinosaur that had roamed around the southern region of South America 77 million years ago. Most surprising, it was 85 feet in length and weighed 65 tons – about eight or nine times the weight of a *T. rex*.

To their further amazement, Dr. Lacovara and his team determined through an analysis of bone tissue that the dinosaur was still growing at a rapid rate when it died, meaning that this species could have even been heavier.

Still, as Dr. Lacovara observed, *Dreadnoughtus* was already the equivalent of 13 African elephants or 10 tons heavier than a Boeing 737.

Dinosaur book

Dr. Lacovara has said that he wrote "Why Dinosaurs Matter" (released in 2017) because it's been a long time since a serious book about dinosaurs has been written for adults.

"When people hear I've written a dinosaur book they automatically assume it's for kids," he said. "But it's not. There are some big lessons from the ancient past we humans need to learn today. We are all more interested in the future than the past, but we don't have access to the future."

Noting contemporary issues – "rising sea levels, environmental destruction and the loss of biodiversity and coral reefs" – Dr. Lacovara said the fact that access to the future is impossible, it's imperative that society learns how to use information about the past to shape solutions for the future.

"The book is called 'Why Dinosaurs Matter,' but I really could've named it 'Why the Past Matters,'" he said.

Dr. Lacovara, who is a jazz drummer in his spare time, grew up in southern New Jersey, an area known for its wealth of fossils.

He is the founding dean of the School of Earth and Environment at Rowan University (Glassboro, New Jersey). Rowan is where he earned an undergraduate degree in geography. He obtained a master's in coastal geomorphology at the University of Maryland. And then, he completed his doctorate at the University of Delaware.

He is also executive director of the Jean and Ric Edelman Fossil Park at Rowan University, where he and his team are building a $75 million museum.

"I think what we have in a bone bed at the bottom of the park is a window into the very last moments of the dinosaurs, Dr. Lacovara said. "I think we actually have the extinction layer preserved there."

He was referring to what's called the world's fifth mass extinction, when the dinosaurs disappeared.

"The fifth extinction is particularly important right now because presently we are experiencing the sixth extinction," he said. "Only this time we are the cause of it. We are the asteroids of our age. It's very important to understand how the earth and earth's ecosystems responded to the last great catastrophe of the earth. And we see that at the bottom."

A widespread belief among paleontologists is that an asteroid struck what is now Mexico's Yucatan Peninsula 66 million years ago and set off a climatic cataclysm that wiped out the dinosaurs, and perhaps, three-fourths of all the species on earth at that time.

###

Gerald H. Levin
Life's Tough, Explorers Edition